



**Middletown Power LLC**  
P.O. Box 1001  
1866 River Road  
Middletown, CT 06457

April 14, 2015

Ms. Jing Chen  
CT Department of Energy & Environmental Protection  
79 Elm Street  
Hartford, CT 06106

**Subject: Semi-Annual Site Status Update**  
**Middletown Station, 1866 River Road, Middletown, CT**

Dear Ms. Chen:

Middletown Power LLC respectfully submits the enclosed Semi-Annual Site Status Update prepared by CB&I Environmental & Infrastructure, Inc. (CB&I) for the Middletown Station. This status update covers environmental activities performed from August 2014 through January 2015 at the subject site.

Please contact Keith Shortsleeve, Environmental Compliance Specialist at Middletown Power LLC with any questions or for additional information at (860) 638-3102 or via email at [keith.shortsleeve@nrg.com](mailto:keith.shortsleeve@nrg.com).

Sincerely,  
MIDDLETOWN POWER LLC

A handwritten signature in blue ink, appearing to read "Stephen J. Cobbe", is written over a faint, larger blue ink signature that is partially obscured.

Stephen J. Cobbe  
Site Manager

Cc: K. Shortsleeve, Middletown Power LLC (hard copy and electronic)  
B. Spooner, NRG (electronic)  
Juan Perez, USEPA (electronic)  
A. Walker, LEP, CB&I (electronic)  
File



CB&I Environmental & Infrastructure, Inc.  
150 Royall Street  
Canton, Massachusetts 02021  
617-589-5111  
Fax: 617-589-5495  
[WWW.CBI.com](http://WWW.CBI.com)

April 2, 2015

Project #: 1009634026.09000000

Ms. Jing Chen  
CT Department of Energy & Environmental Protection  
79 Elm Street  
Hartford, CT 06106

Subject: Semi-Annual Site Status Update  
Middletown Generating Station  
Middletown, CT

Dear Ms. Chen:

On behalf of Middletown Power LLC, CB&I Environmental & Infrastructure (CB&I) has prepared this letter to provide a semi-annual site status update for the subject site. In addition, CB&I is providing the Connecticut Department of Energy & Environmental Protection (CTDEEP) with a schedule for continuing environmental activities at the site.

#### **AUGUST 2014 THROUGH JANUARY 2015 ACTIVITIES**

Environmental field activities completed at the site between August 2014 and January 2015 include groundwater monitoring and Engineered Control (EC) inspections. These activities are discussed below.

##### **Groundwater Monitoring**

Shaw conducted a groundwater sampling event on September 18 and 19, 2014. Groundwater monitoring and sampling was completed at twelve monitoring wells in September 2014. Monitoring well locations are shown on the site plans (**Figures 1 and 2**). A list of the monitoring wells sampled and the analyses conducted is provided in the table below. Laboratory analysis was completed by Accutest Laboratories in Marlboro, Massachusetts. The groundwater sampling event was generally consistent with the monitoring plan provided in EC Part 2 dated November 2010 and the Site-Wide Remedial Action Plan (RAP) dated October 2011.

Location	Laboratory Analysis September 18 and 19, 2014 Groundwater Monitoring Event	
	Metals	EPH
TW-10	X	
TW-14	X	
TW-17D	X	
TW-18	X	
TW-21D	X	
AOC01-MW1R	X	
AOC01-MW2	X	
AOC05-MW1		X
AOC02-SB1-MW1	X	
AOC08-SB1-MW1		X
AOC09-SB1-MW1	As only	X
AOC09-SB2-MW2	X	X

Notes:

1. Total Metals including arsenic, lead, selenium, vanadium, and zinc by EPA Method 6010C (Lab Code: SW846 6010C).
2. Extractable petroleum hydrocarbons (EPH) by Massachusetts Department of Environmental Protection (MADEP) method (Lab Code: MADEP EPH Rev. 1.1, SW846 3510C) and polycyclic aromatic hydrocarbons (PAHs) including 2-methylnaphthalene by EPA Method 8270 SIM (Lab Code: SW846 8270D by SIM).

During the September 2014 groundwater sampling event, depth to groundwater was measured at each of the monitoring wells using an electronic interface probe (IP) capable of detecting light non-aqueous phase liquid (LNAPL). LNAPL was not detected in monitoring wells gauged during this event. Results of water level monitoring can be found in **Table 1**.

During the September 2014 groundwater monitoring event, CB&I collected groundwater samples from the monitoring wells listed in the above table using a modified low flow sampling technique. No samples were field filtered. Each well was pumped at a rate that produced little or no drawdown while parameters including temperature, pH, dissolved oxygen, turbidity, and conductivity were monitored. Groundwater samples were then collected after the parameters stabilized to ensure that the groundwater sample was representative of local aquifer conditions. Laboratory analysis of each sample is noted in the table above. The complete laboratory analytical reports are provided in **Attachment 1**.

The groundwater analytical results from the September 2014 sampling event are summarized in **Table 2**. The results of the September 2014 event are generally consistent with the previous several events except for the detection of low concentrations of 2-methylnaphthalene in groundwater samples collected from three wells where it was historically non-detect and a notable higher than previous concentration of selenium in the groundwater sample collected from one well. The groundwater analytical results for the

four most recent sampling events, including September 2014, are summarized in **Table 3**. These tables compare the results to applicable criteria for this site, which is classified as groundwater GB. Compounds detected in groundwater samples collected in September 2014 include the following:

- 2-Methylnaphthalene was detected in groundwater samples collected from AOC05-MW1, AOC09-SB1-MW1, and AOC09-SB2-MW2. There is no Connecticut Surface Water Protection Criteria (SWPC) defined for 2-methylnaphthalene. Acenaphthene, acenaphthylene, fluorene, phenanthrene, and pyrene were detected in the groundwater sample and field duplicate collected from AOC08-SB1-MW1. There is no SWPC defined for acenaphthene. The concentrations of acenaphthylene, fluorene, and pyrene detected were less than their respective SWPC. The concentrations of phenanthrene detected at 0.91 µg/L (0.88 µg/L in field duplicate) were greater than the SWPC of 0.077 µg/L.
- Arsenic was detected in the groundwater sample collected from AOC09-SB2-MW2 at 3.5 µg/L. The concentration detected was less than the SWPC of 4 µg/L.
- Selenium was detected in groundwater samples collected from AOC01-MW1R at 52.6 µg/L and TW-17D at 54.3 µg/L which are both greater than the SWPC of 50 µg/L. Selenium was also detected in groundwater samples collected from TW-10 at 2.8 µg/L and TW-21D at 35.5 µg/L which are both less than the SWPC.
- Vanadium was detected in each groundwater sample except that collected from AOC09-SB2-MW2 with the maximum concentration of 381 µg/L detected in the groundwater sample collected from TW-17D. There is no established SWPC for vanadium. However, as a point of reference, the CTDEEP has approved an additional SWPC of 1,500 µg/L for the NRG Devon facility in Milford, CT and the Massachusetts Department of Environmental Protection (MassDEP) GW-3 standard is 4,000 µg/L.
- Zinc was detected in each groundwater sample with a maximum concentration of 91.1 µg/L detected in the groundwater sample collected from AOC09-SB2-MW2. The concentrations detected were less than the SWPC of 123 µg/L.
- C11-C22 Aromatics were detected in groundwater samples collected from AOC08-SB1-MW1 at 282 µg/L (313 µg/L in the field duplicate) which are greater than the SWPC from the guidance of 250 µg/L. C19-C36 Aliphatics and C9-C18 aliphatics were also detected in the groundwater sample and field duplicate collected at AOC08-SB1-MW1 but at concentrations below their respective SWPC from the guidance. The SWPC for aliphatic and aromatic hydrocarbons were obtained from the July 2012 CTDEEP technical support document.

Laboratory analysis completed as part of these site activities was requested to be conducted in accordance with CTDEEP's Reasonable Confidence Protocol (RCP). The work completed during this reporting period was performed in general accordance with the site specific Quality Assurance Project

Plan (QAPP). CB&I performed a data validation review for the laboratory report. The data validation work sheets are attached to the laboratory reports included in **Attachment 1**. The laboratory analysis was completed in accordance with CTDEEP's RCP; however, a few minor quality assurance/quality control (QA/QC) issues, which are summarized in the validation worksheets and laboratory report narratives, were identified. QA/QC issues noted included:

#### MC33784

- The relative percent differences (RPD) for arsenic and vanadium were outside the control limits in the serial dilutions for one sample. The percent differences are acceptable due to low initial sample concentrations at less than 50 times the instrument detection limit. Therefore, no sample qualification is necessary.

#### MC33726

- Surrogate recoveries for SW846 8270D by SIM were within QC limits for 2-Fluorobiphenyl. Surrogate compounds Nitrobenzene-d5 and Terphenyl-d14 were not added for this fraction. No qualification is necessary.
- Surrogate recoveries for MADEP EPH REV 1.1 for 1-Chlorooctadecane standard were below QC limits (40-140%) for AOC8-SB1-MW1 and AOC9-SB2-MW2 with 36% recoveries for both samples. Results for these samples were qualified "J" or "UJ" for reported compounds as applicable.
- Due to the presence of low levels of phenanthrene, naphthalene, and zinc in the field equipment blank sample, associated samples with positive results reported at < 5 times the concentrations detected in the equipment blank were qualified as non-detect ("U"). Laboratory assigned "B" qualifiers indicating an analyte is found in the associated method blank will be qualified with a "J" unless "U" qualified due to blank contamination.
- The EPH surrogate recoveries were outside the control limits in select samples where surrogate standard was not added. The EPH extract was analyzed instead; therefore, no sample qualification is necessary.
- The relative percent differences (RPD) for selenium and vanadium were outside the control limits in the serial dilutions for one sample. The percent differences are acceptable due to low initial sample concentrations at less than 50 times the instrument detection limit. Therefore, no sample qualification is necessary.
- The RPD for zinc was outside the control limits in the serial dilutions for one sample. The percent differences are acceptable due to low duplicate and sample concentrations. Therefore, no sample qualification is necessary.

A number of sample results for metals in both reports were reported at concentrations less than the reporting limit but greater than the method detection limit. Although this is not specifically a QA/QC issue, the results should be considered estimated and are qualified with a "J" unless "U" qualified due to blank contamination. In summary, the qualifications applied to the results had no overall effect on the conclusions drawn from the data, and the data, as qualified, is acceptable for the purposes of this submittal.

### **Construction of Site-Wide EC**

Construction of the site-wide EC conducted during this reporting period included installation of processed stone cover in select areas. Approximately 1,800 square feet (SF) of 4-inch thick stone cover was placed in a parking area northwest of the switchyard and approximately 1,700 SF of 4-inch thick stone cover was placed on the west side of the plant building between two smaller buildings. The stone EC was installed by H. E. Butler Construction Company (Butler) in December 2014. NRG performed oversight of the contractor during construction. The progress as-built drawings of the EC completed through March 2015 are provided in **Attachment 2**. The EC completed during this reporting period has not yet been reviewed by the Professional Engineer to determine if it meets specifications approved in the October 2011 RAP. EC completion will be documented in a subsequent status report.

### **EC Inspections**

As stated in Section 6.0 of the CTDEEP-approved EC, routine inspections of the EC installed to date begin one month after completion and are performed quarterly for the first year. NRG and CB&I have conducted the required periodic inspections of the completed SB-1 EC and several areas of stone and pavement cover. Additional areas of the EC will be inspected as they are completed. During this reporting period, NRG conducted routine EC inspections on August 14, 2014 and November 14, 2014. A modified version of Table 1 of the EC Part 2, the Engineered Control Inspection Checklist, was completed to document the inspections (**Attachment 3**).

### **SITE SCHEDULE**

Outlined below is an estimated site schedule that Middletown Power LLC, expect to follow in the next two years.

<b>Activity</b>	<b>Anticipated Date</b>
Continued Groundwater Monitoring	Q2 2015, Q4 2015
RAP Complete (i.e., construction complete)	Q3 2016
RAP Completion Report (includes Engineered Control Completion Report)	Q4 2016
Post Remediation Monitoring	2017

NRG will continue to provide updates on the status of response actions at the subject site on a semi-annual basis as requested by CTDEEP. Plans, submittals, and reports will be copied to the USEPA.

If you have any questions regarding this letter or any other matter, please do not hesitate to call.

Sincerely,



Andrew D. Walker, LEP, LSP  
Project Manager  
CB&I Environmental & Infrastructure, Inc.

Phone: 617-589-6143

Email Address: [Andrew.Walker@CBI.com](mailto:Andrew.Walker@CBI.com)

Enclosures:

Table 1 – Groundwater Gauging Data

Table 2 – Groundwater Analytical Results – Detections September 2014

Table 3 – Groundwater Analytical Results – May 2013 to September 2014

Figure 1 – Site Plan – Western

Figure 2 – Site Plan – Eastern

Attachment 1 – Laboratory Analytical Reports and Data Validations

Attachment 2 – As-Built Engineered Controls Revised March 2015

Attachment 3 – Engineered Control Inspection Checklists

cc: Keith Shortsleeve, Middletown Power LLC (hard copy and electronic copy)  
Robert Spooner, NRG (electronic copy)  
Juan Perez, USEPA (electronic copy)

## TABLES



**TABLE 1**  
**GROUNDWATER GAUGING DATA**  
**(09/18/2014 - 09/19/2014)**

Middletown Power LLC  
1866 River Road  
Middletown, Connecticut

Location	Date	Reference Elevation (Feet)	Depth to Water (Feet)	Depth to LNAPL (Feet)	LNAPL Thickness (Feet)	Groundwater Elevation (Feet)	Notes
AOC01-MW1R	9/19/2014	NA	32.12	ND	---	NA	DTB = 39.44'
AOC01-MW2	9/19/2014	NA	31.72	ND	---	NA	DTB = 39.73'
AOC02-SB1-MW1	9/19/2014	27.60	25.53	ND	---	2.07	DTB = 35.82'
AOC05-MW1	9/18/2014	21.27	15.99	ND	---	5.28	DTB = 24.44'
AOC08-SB1-MW1	9/18/2014	25.38	19.86	ND	---	5.52	DTB = 32.10'
AOC09-SB1-MW1	9/18/2014	27.39	25.24	ND	---	2.15	DTB = 34.71'
AOC09-SB2-MW2	9/18/2014	24.92	22.52	ND	---	2.40	DTB = 34.61'
TW-10	9/19/2014	32.60	31.15	ND	---	1.45	DTB = 43.30'
TW-14	9/19/2014	28.33	29.68	ND	---	-1.35	DTB = 47.66'
TW-17D	9/18/2014	34.48	32.77	ND	---	1.71	DTB = 41.92'
TW-18	9/18/2014	36.92	34.62	ND	---	2.30	DTB = 41.25'
TW-21D	9/18/2014	34.42	32.67	ND	---	1.75	DTB = 41.23'

Notes: NA = Not Available  
--- = Not Applicable  
ND = Not Detected  
DTB = Depth to Bottom  
Elevations relative to NGVD29

**Table 2**  
**Groundwater Analytical Results - Detections September 2014**  
Middletown Power LLC, Middletown, CT

CONSTITUENT	SWPC	AOC01-MW1R 9/19/2014 Primary	AOC01-MW2 9/19/2014 Primary	AOC02-SB1-MW1 9/19/2014 Primary	AOC05-MW1 9/18/2014 Primary	AOC08-SB1-MW1 9/18/2014 Primary	AOC08-SB1-MW1 9/18/2014 Duplicate 1	AOC09-SB1-MW1 9/18/2014 Primary	AOC09-SB2-MW2 9/18/2014 Primary	TW-10 9/19/2014 Primary
<b>SVOCs (ug/L)</b>										
2-Methylnaphthalene	NE	---	---	---	1.4	<0.25	<0.25	1	0.53	---
Acenaphthene	NE	---	---	---	<0.14	1.2	1.2	<0.14	<0.14	---
Acenaphthylene	0.3	---	---	---	<0.099	0.22	0.23	<0.099	<0.099	---
Fluorene	140000	---	---	---	<0.20	2.1	2	<0.20	<0.20	---
Phenanthrene	0.077	---	---	---	<0.23U	<b>{0.91}</b>	<b>{0.88}</b>	<0.089JU	<0.062JU	---
Pyrene	110000	---	---	---	<0.077	0.093JJ	0.099JJ	<0.077	<0.077	---
<b>EPH (ug/L)</b>										
C11-C22 Aromatics	250	---	---	---	<100	<b>{282}J</b>	<b>{313}</b>	<100	<100UJ	---
C19-C36 Aliphatics (FID)	530	---	---	---	<100	209J	197	<100	<100UJ	---
C9-C18 Aliphatics (FID)	770	---	---	---	<100	202J	251	<100	<100UJ	---
<b>Total Metals (ug/L)</b>										
Arsenic	4	<2.4	<2.4	<2.4	---	---	---	<2.4	3.5BJ	<2.4
Selenium	50	<b>{52.6}</b>	<2.7	<2.7	---	---	---	---	<2.7	2.8BJ
Vanadium	NE	6.1BJ	2.1BJ	0.90BJ	---	---	---	---	<0.72	2.4BJ
Zinc	123	6.5BJ	7.0BJ	8.3BJ	---	---	---	---	91.1	8.7BJ

**Notes:**

SWPC = Connecticut Surface Water Protection Criteria

SWPC for aliphatic and aromatic hydrocarbon ranges from July 2012 CTDEEP technical support document

--- = Constituent not analyzed for

NE = Not established

ug/L = micrograms per liter

**{Bold}** exceeds SWPC criteria

J = Estimated value, lab and/or validation qualifier

U = Below detection limit as determined by validator

B = Estimated value, lab qualifier (inorganics).

**Table 2**  
**Groundwater Analytical Results - Detections September 2014**  
Middletown Power LLC, Middletown, CT

CONSTITUENT	SWPC	TW-14 9/19/2014 Primary	TW-17D 9/18/2014 Primary	TW-18 9/18/2014 Primary	TW-18 9/18/2014 Duplicate 1	TW-21D 9/18/2014 Primary
<b>SVOCs (ug/L)</b>						
2-Methylnaphthalene	NE	---	---	---	---	---
Acenaphthene	NE	---	---	---	---	---
Acenaphthylene	0.3	---	---	---	---	---
Fluorene	140000	---	---	---	---	---
Phenanthrene	0.077	---	---	---	---	---
Pyrene	110000	---	---	---	---	---
<b>EPH (ug/L)</b>						
C11-C22 Aromatics	250	---	---	---	---	---
C19-C36 Aliphatics (FID)	530	---	---	---	---	---
C9-C18 Aliphatics (FID)	770	---	---	---	---	---
<b>Total Metals (ug/L)</b>						
Arsenic	4	<2.4	<2.4	<2.4	<2.4	<2.4
Selenium	50	<2.7	<b>{54.3}</b>	<2.7	<2.7	35.5
Vanadium	NE	6.6BJ	381	16.1	16	8.3BJ
Zinc	123	9.7BJ	7.2BJ	6.5BJ	12.9BJ	6.9BJ

**Notes:**

SWPC = Connecticut Surface Water Protection Criteria

SWPC for aliphatic and aromatic hydrocarbon ranges from July 2012 CTDEEP technical support document

--- = Constituent not analyzed for

NE = Not established

ug/L = micrograms per liter

**{Bold}** exceeds SWPC criteria

J = Estimated value, lab and/or validation qualifier

U = Below detection limit as determined by validator

B = Estimated value, lab qualifier (inorganics)

**Table 3**  
**Groundwater Analytical Results - May 2013 through September 2014**  
Middletown Power LLC, Middletown, CT

CONSTITUENT	SWPC	AOC01-MW1R 5/10/2013 Primary	AOC01-MW1R 12/12/2013 Primary	AOC01-MW1R 5/6/2014 Primary	AOC01-MW1R 9/19/2014 Primary	AOC01-MW2 5/10/2013 Primary	AOC01-MW2 12/12/2013 Primary	AOC01-MW2 5/6/2014 Primary	AOC01-MW2 9/19/2014 Primary	AOC02-SB1-MW1 5/10/2013 Primary	AOC02-SB1-MW1 12/12/2013 Primary
<b>SVOCs (ug/L)</b>											
2-Methylnaphthalene	NE	---	---	---	---	---	---	---	---	---	---
Acenaphthene	NE	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	0.3	---	---	---	---	---	---	---	---	---	---
Anthracene	1100000	---	---	---	---	---	---	---	---	---	---
Benzo(a)anthracene	0.3	---	---	---	---	---	---	---	---	---	---
Benzo(a)pyrene	0.3	---	---	---	---	---	---	---	---	---	---
Benzo(b)fluoranthene	0.3	---	---	---	---	---	---	---	---	---	---
Benzo(ghi)perylene	NE	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	0.3	---	---	---	---	---	---	---	---	---	---
Chrysene	NE	---	---	---	---	---	---	---	---	---	---
Dibenzo(a,h)anthracene	NE	---	---	---	---	---	---	---	---	---	---
Fluoranthene	3700	---	---	---	---	---	---	---	---	---	---
Fluorene	140000	---	---	---	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	NE	---	---	---	---	---	---	---	---	---	---
Naphthalene	NE	---	---	---	---	---	---	---	---	---	---
Phenanthrene	0.077	---	---	---	---	---	---	---	---	---	---
Pyrene	110000	---	---	---	---	---	---	---	---	---	---
<b>EPH (ug/L)</b>											
C9-C18 Aliphatics (FID)	770	---	---	---	---	---	---	---	---	---	---
C19-C36 Aliphatics (FID)	530	---	---	---	---	---	---	---	---	---	---
C11-C22 Aromatics	250	---	---	---	---	---	---	---	---	---	---
<b>CT ETPH (mg/L)</b>											
ETPH	NE	---	---	---	---	---	---	---	---	---	---
<b>Total Metals (ug/L)</b>											
Arsenic	4	<2.9	<2.9	<2.9	<2.4	<b>{6.2}</b>	<2.9	<2.9	<2.4	<2.9	<2.9
Lead	13	<1.7	<1.7	<1.7	<1.9	<1.7	<1.7	<1.7	<1.9	<1.7	<1.7
Selenium	50	10	26.9	27	<b>{52.6}</b>	<4.8	<4.8	<4.8	<2.7	<4.8	5.6BJ
Vanadium	NE	<2.8	<2.8	<2.8	6.1BJ	5.9BJ	12.4	<2.8	2.1BJ	3.2BJ	6.4BJ
Zinc	123	5.5BJ	<3.6BU	<5.3BU	6.5BJ	7.5BJ	<16.5BU	65.1	7.0BJ	7.4BJ	<6.4BU

**Notes:** SWPC = Connecticut Surface Water Protection Criteria.

SWPC for aliphatic and aromatic hydrocarbon ranges from July 2012 CTDEEP technical support document.

--- = Constituent not analyzed for.

NE = Not established

mg/L = milligrams per liter

ug/L = micrograms per liter

**{Bold}** exceeds least SWPC criteria

B = Estimated value (inorganics) or constituent detected in associated method blank (organics), lab qualifier

J = Estimated value, lab and/or validation qualifier

U = Below detection limit as determined by validator

**Table 3**  
**Groundwater Analytical Results - May 2013 through September 2014**  
Middletown Power LLC, Middletown, CT

CONSTITUENT	SWPC	AOC02-SB1-MW1 5/5/2014 Primary	AOC02-SB1-MW1 9/19/2014 Primary	AOC05-MW1 5/9/2013 Primary	AOC05-MW1 12/12/2013 Primary	AOC05-MW1 5/5/2014 Primary	AOC05-MW1 9/18/2014 Primary	AOC08-SB1-MW1 5/9/2013 Primary	AOC08-SB1-MW1 5/9/2013 Duplicate 1	AOC08-SB1-MW1 12/13/2013 Primary
<b>SVOCs (ug/L)</b>										
2-Methylnaphthalene	NE	---	---	<0.052	<0.20	<0.075	1.4	<0.052	---	<0.20
Acenaphthene	NE	---	---	<0.014	<0.10	<0.070	<0.14	0.36	---	2.3
Acenaphthylene	0.3	---	---	<0.013	<0.10	<0.050	<0.099	<0.013	---	<0.10
Anthracene	1100000	---	---	<0.018	<0.10	<0.093	<0.18	<0.018	---	<0.10
Benzo(a)anthracene	0.3	---	---	<0.030	<0.050	<0.020	<0.039	<0.030	---	<0.051
Benzo(a)pyrene	0.3	---	---	<0.017	<0.10	<0.029	<0.057	<0.017	---	<0.10
Benzo(b)fluoranthene	0.3	---	---	<0.024	<0.050	<0.032	<0.063	<0.024	---	<0.051
Benzo(ghi)perylene	NE	---	---	<0.038	<0.10	<0.027	<0.054	<0.038	---	<0.10
Benzo(k)fluoranthene	0.3	---	---	<0.059	<0.10	<0.039	<0.077	<0.059	---	<0.10
Chrysene	NE	---	---	<0.073	<0.10	<0.024	<0.048	<0.073	---	<0.10
Dibenzo(a,h)anthracene	NE	---	---	<0.042	<0.10	<0.032	<0.064	<0.042	---	<0.10
Fluoranthene	3700	---	---	<0.033	<0.10	<0.041	<0.081	<0.033	---	<0.10
Fluorene	140000	---	---	<0.046	<0.10	<0.10	<0.20	0.060J	---	4
Indeno(1,2,3-cd)pyrene	NE	---	---	<0.046	<0.10	<0.031	<0.061	<0.046	---	<0.10
Naphthalene	NE	---	---	<0.036	<0.10	<0.042	<1.4BU	<0.036	---	0.71
Phenanthrene	0.077	---	---	<0.013	<0.050	<0.013	<0.23U	<0.013	---	<b>{0.70}</b>
Pyrene	110000	---	---	<0.036	<0.10	<0.039	<0.077	<0.036	---	0.26
<b>EPH (ug/L)</b>										
C9-C18 Aliphatics (FID)	770	---	---	---	---	<100	<100	---	---	---
C19-C36 Aliphatics (FID)	530	---	---	---	---	<100	<100	---	---	---
C11-C22 Aromatics	250	---	---	---	---	<100	<100	---	---	---
<b>CT ETPH (mg/L)</b>										
ETPH	NE	---	---	<0.060	<0.080	---	---	1.23	1.15	3.79
<b>Total Metals (ug/L)</b>										
Arsenic	4	<2.9	<2.4	---	---	---	---	<2.9	---	---
Lead	13	<1.7	<1.9	---	---	---	---	<1.7	---	---
Selenium	50	<4.8	<2.7	---	---	---	---	<4.8	---	---
Vanadium	NE	<2.8	0.90BJ	---	---	---	---	<2.8	---	---
Zinc	123	<6.8BU	8.3BJ	---	---	---	---	<3.6BU	---	---

**Notes:** SWPC = Connecticut Surface Water Protection Criteria.

SWPC for aliphatic and aromatic hydrocarbon ranges from July 2012 CTDEEP technical support document.

--- = Constituent not analyzed for.

NE = Not established

mg/L = milligrams per liter

ug/L = micrograms per liter

**{Bold}** exceeds least SWPC criteria

B = Estimated value (inorganics) or constituent detected in associated method blank (organics), lab qualifier

J = Estimated value, lab and/or validation qualifier

U = Below detection limit as determined by validator

**Table 3**  
**Groundwater Analytical Results - May 2013 through September 2014**  
Middletown Power LLC, Middletown, CT

CONSTITUENT	SWPC	AOC08-SB1-MW1 12/13/2013 Duplicate 1	AOC08-SB1-MW1 5/6/2014 Primary	AOC08-SB1-MW1 5/6/2014 Duplicate 1	AOC08-SB1-MW1 9/18/2014 Primary	AOC08-SB1-MW1 9/18/2014 Duplicate 1	AOC09-SB1-MW1 5/9/2013 Primary	AOC09-SB1-MW1 12/13/2013 Primary	AOC09-SB1-MW1 5/5/2014 Primary	AOC09-SB1-MW1 9/18/2014 Primary
<b>SVOCs (ug/L)</b>										
2-Methylnaphthalene	NE	---	<0.075	---	<0.25	<0.25	<0.052	<0.20	<0.075	1
Acenaphthene	NE	---	0.1	<0.14	1.2	1.2	<0.014	<0.10	<0.070	<0.14
Acenaphthylene	0.3	---	<0.050	<0.10	0.22	0.23	<0.013	<0.10	<0.050	<0.099
Anthracene	1100000	---	<0.093	<0.19	<0.18	<0.18	<0.018	<0.10	<0.093	<0.18
Benzo(a)anthracene	0.3	---	<0.020	<0.040	<0.039	<0.039	<0.030	<0.050	<0.020	<0.039
Benzo(a)pyrene	0.3	---	<0.029	<0.059	<0.057	<0.057	<0.017	<0.10	<0.029	<0.057
Benzo(b)fluoranthene	0.3	---	<0.032	<0.064	<0.063	<0.063	<0.024	<0.050	<0.032	<0.063
Benzo(ghi)perylene	NE	---	<0.027	<0.055	<0.054	<0.054	<0.038	<0.10	<0.027	<0.054
Benzo(k)fluoranthene	0.3	---	<0.039	<0.079	<0.077	<0.077	<0.059	<0.10	<0.039	<0.077
Chrysene	NE	---	<0.024	<0.049	<0.048	<0.048	<0.073	<0.10	<0.024	<0.048
Dibenzo(a,h)anthracene	NE	---	<0.032	<0.065	<0.064	<0.064	<0.042	<0.10	<0.032	<0.064
Fluoranthene	3700	---	<0.041	<0.083	<0.081	<0.081	<0.033	<0.10	<0.041	<0.081
Fluorene	140000	---	<0.10	<0.20	2.1	2	<0.046	<0.10	<0.10	<0.20
Indeno(1,2,3-cd)pyrene	NE	---	<0.031	<0.062	<0.061	<0.061	<0.046	<0.10	<0.031	<0.061
Naphthalene	NE	---	<0.042	<0.23BU	<1.6U	<1.2BU	<0.075JBU	<0.10	<0.042	<1.5U
Phenanthrene	0.077	---	<0.013	<0.033JBU	<b>{0.91}</b>	<b>{0.88}</b>	<0.013	<0.050	<0.013	<0.089JU
Pyrene	110000	---	<0.039	<0.078	0.093JJ	0.099JJ	<0.036	<0.10	<0.039	<0.077
<b>EPH (ug/L)</b>										
C9-C18 Aliphatics (FID)	770	---	<100	143	202J	251	---	---	<100	<100
C19-C36 Aliphatics (FID)	530	---	109	134	209J	197	---	---	<100	<100
C11-C22 Aromatics	250	---	<b>{287}</b>	<b>{461}</b>	<b>{282}J</b>	<b>{313}</b>	---	---	<100	<100
<b>CT ETPH (mg/L)</b>										
ETPH	NE	3.31	---	---	---	---	<0.061	<0.080	---	---
<b>Total Metals (ug/L)</b>										
Arsenic	4	---	---	---	---	---	---	<2.9	<2.9	<2.4
Lead	13	---	---	---	---	---	---	---	---	---
Selenium	50	---	---	---	---	---	---	---	---	---
Vanadium	NE	---	---	---	---	---	---	---	---	---
Zinc	123	---	---	---	---	---	---	---	---	---

**Notes:** SWPC = Connecticut Surface Water Protection Criteria.

SWPC for aliphatic and aromatic hydrocarbon ranges from July 2012 CTDEEP technical support document.

--- = Constituent not analyzed for.

NE = Not established

mg/L = milligrams per liter

ug/L = micrograms per liter

**{Bold}** exceeds least SWPC criteria

B = Estimated value (inorganics) or constituent detected in associated method blank (organics), lab qualifier

J = Estimated value, lab and/or validation qualifier

U = Below detection limit as determined by validator

**Table 3**  
**Groundwater Analytical Results - May 2013 through September 2014**  
Middletown Power LLC, Middletown, CT

CONSTITUENT	SWPC	AOC09-SB2-MW2 5/9/2013 Primary	AOC09-SB2-MW2 5/9/2013 Duplicate 1	AOC09-SB2-MW2 12/13/2013 Primary	AOC09-SB2-MW2 12/13/2013 Duplicate 1	AOC09-SB2-MW2 5/5/2014 Primary	AOC09-SB2-MW2 5/5/2014 Duplicate 1	AOC09-SB2-MW2 9/18/2014 Primary	TW-10 5/10/2013 Primary	TW-10 12/12/2013 Primary
<b>SVOCs (ug/L)</b>										
2-Methylnaphthalene	NE	<0.052	<0.053	<0.20	<0.20	<0.075	<0.075	0.53	---	---
Acenaphthene	NE	<0.014	0.38	<0.10	<0.10	0.096JJ	0.12	<0.14	---	---
Acenaphthylene	0.3	<0.013	<0.014	<0.10	<0.10	<0.050	<0.050	<0.099	---	---
Anthracene	1100000	<0.018	<0.018	<0.10	<0.10	<0.093	<0.093	<0.18	---	---
Benzo(a)anthracene	0.3	<0.030	<0.031	<0.050	<0.050	<0.020	<0.020	<0.039	---	---
Benzo(a)pyrene	0.3	<0.017	<0.018	<0.10	<0.10	<0.029	<0.029	<0.057	---	---
Benzo(b)fluoranthene	0.3	<0.024	<0.024	<0.050	<0.050	<0.032	<0.032	<0.063	---	---
Benzo(ghi)perylene	NE	<0.038	<0.038	<0.10	<0.10	<0.027	<0.027	<0.054	---	---
Benzo(k)fluoranthene	0.3	<0.059	<0.060	<0.10	<0.10	<0.039	<0.039	<0.077	---	---
Chrysene	NE	<0.073	<0.074	<0.10	<0.10	<0.024	<0.024	<0.048	---	---
Dibenzo(a,h)anthracene	NE	<0.042	<0.043	<0.10	<0.10	<0.032	<0.032	<0.064	---	---
Fluoranthene	3700	<0.033	<0.033	<0.10	<0.10	<0.041	<0.041	<0.081	---	---
Fluorene	140000	<0.046	0.53	<0.10	<0.10	0.16	0.22	<0.20	---	---
Indeno(1,2,3-cd)pyrene	NE	<0.046	<0.047	<0.10	<0.10	<0.031	<0.031	<0.061	---	---
Naphthalene	NE	<0.036	<0.037	<0.10	<0.10	<0.057JU	<0.054JU	<1.0BU	---	---
Phenanthrene	0.077	<0.013	<0.013	<0.050	<0.050	<0.019JBU	<0.013	<0.062JU	---	---
Pyrene	110000	<0.036	<0.036	<0.10	<0.10	<0.039	<0.039	<0.077	---	---
<b>EPH (ug/L)</b>										
C9-C18 Aliphatics (FID)	770	---	---	---	---	<100	---	<100UJ	---	---
C19-C36 Aliphatics (FID)	530	---	---	---	---	<100	---	<100UJ	---	---
C11-C22 Aromatics	250	---	---	---	---	150	---	<100UJ	---	---
<b>CT ETPH (mg/L)</b>										
ETPH	NE	0.332	---	<0.0877U	---	---	---	---	<0.060	---
<b>Total Metals (ug/L)</b>										
Arsenic	4	<b>{7.3}</b>	---	<2.9	---	<2.9	---	3.5BJ	<2.9	<2.9
Lead	13	<1.7	---	<1.7	---	<1.7	---	<1.9	<1.7	<1.7
Selenium	50	<4.8	---	<4.8	---	<4.8	---	<2.7	<4.8	<4.8
Vanadium	NE	<2.8	---	<2.8	---	<2.8	---	<0.72	<2.8	7.2BJ
Zinc	123	<20.4U	---	<b>{377}</b>	---	81.4	---	91.1	4.3BJ	<7.8BU

**Notes:** SWPC = Connecticut Surface Water Protection Criteria.

SWPC for aliphatic and aromatic hydrocarbon ranges from July 2012 CTDEEP technical support document.

--- = Constituent not analyzed for.

NE = Not established

mg/L = milligrams per liter

ug/L = micrograms per liter

**{Bold}** exceeds least SWPC criteria

B = Estimated value (inorganics) or constituent detected in associated method blank (organics), lab qualifier

J = Estimated value, lab and/or validation qualifier

U = Below detection limit as determined by validator

**Table 3**  
**Groundwater Analytical Results - May 2013 through September 2014**  
Middletown Power LLC, Middletown, CT

CONSTITUENT	SWPC	TW-10 5/6/2014 Primary	TW-10 9/19/2014 Primary	TW-14 5/10/2013 Primary	TW-14 12/12/2013 Primary	TW-14 5/6/2014 Primary	TW-14 9/19/2014 Primary	TW-17D 5/10/2013 Primary	TW-17D 12/12/2013 Primary	TW-17D 5/5/2014 Primary	TW-17D 9/18/2014 Primary	TW-18 5/9/2013 Primary	TW-18 5/9/2013 Duplicate 1
<b>SVOCs (ug/L)</b>													
2-Methylnaphthalene	NE	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthene	NE	---	---	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	0.3	---	---	---	---	---	---	---	---	---	---	---	---
Anthracene	1100000	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(a)anthracene	0.3	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(a)pyrene	0.3	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(b)fluoranthene	0.3	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(ghi)perylene	NE	---	---	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	0.3	---	---	---	---	---	---	---	---	---	---	---	---
Chrysene	NE	---	---	---	---	---	---	---	---	---	---	---	---
Dibenzo(a,h)anthracene	NE	---	---	---	---	---	---	---	---	---	---	---	---
Fluoranthene	3700	---	---	---	---	---	---	---	---	---	---	---	---
Fluorene	140000	---	---	---	---	---	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	NE	---	---	---	---	---	---	---	---	---	---	---	---
Naphthalene	NE	---	---	---	---	---	---	---	---	---	---	---	---
Phenanthrene	0.077	---	---	---	---	---	---	---	---	---	---	---	---
Pyrene	110000	---	---	---	---	---	---	---	---	---	---	---	---
<b>EPH (ug/L)</b>													
C9-C18 Aliphatics (FID)	770	---	---	---	---	---	---	---	---	---	---	---	---
C19-C36 Aliphatics (FID)	530	---	---	---	---	---	---	---	---	---	---	---	---
C11-C22 Aromatics	250	---	---	---	---	---	---	---	---	---	---	---	---
<b>CT ETPH (mg/L)</b>													
ETPH	NE	---	---	---	---	---	---	---	---	---	---	---	---
<b>Total Metals (ug/L)</b>													
Arsenic	4	<b>{4.6}</b>	<2.4	<2.9	<2.9	<2.9	<2.4	<2.9	<2.9	<2.9	<2.4	<2.9	<2.9
Lead	13	<1.7	<1.9	<1.7	<1.7	<1.7	<1.9	<1.7	<1.7	<1.7	<1.9	<1.7	<1.7
Selenium	50	<4.8	2.8BJ	<4.8	<4.8	<4.8	<2.7	29.7	<b>{57.1}</b>	49.1	<b>{54.3}</b>	<4.8	<4.8
Vanadium	NE	7.5BJ	2.4BJ	<2.8	5.0BJ	4.6BJ	6.6BJ	408	308	400	381	11	11.8
Zinc	123	<5.6BU	8.7BJ	16.7BJ	<11.8BU	<6.8BU	9.7BJ	11.7BJ	<10.9BU	<6.3BU	7.2BJ	<6.7BU	<10.2BU

**Notes:** SWPC = Connecticut Surface Water Protection Criteria.

SWPC for aliphatic and aromatic hydrocarbon ranges from July 2012 CTDEEP technical support document.

--- = Constituent not analyzed for.

NE = Not established

mg/L = milligrams per liter

ug/L = micrograms per liter

**{Bold}** exceeds least SWPC criteria

B = Estimated value (inorganics) or constituent detected in associated method blank (organics), lab qualifier

J = Estimated value, lab and/or validation qualifier

U = Below detection limit as determined by validator



**Table 3**  
**Groundwater Analytical Results - May 2013 through September 2014**  
Middletown Power LLC, Middletown, CT

CONSTITUENT	SWPC	TW-18 12/12/2013 Primary	TW-18 12/12/2013 Duplicate 1	TW-18 5/6/2014 Primary	TW-18 5/6/2014 Duplicate 1	TW-18 9/18/2014 Primary	TW-18 9/18/2014 Duplicate 1	TW-21D 5/10/2013 Primary	TW-21D 12/12/2013 Primary	TW-21D 5/6/2014 Primary	TW-21D 9/18/2014 Primary
<b>SVOCs (ug/L)</b>											
2-Methylnaphthalene	NE	---	---	---	---	---	---	---	---	---	---
Acenaphthene	NE	---	---	---	---	---	---	---	---	---	---
Acenaphthylene	0.3	---	---	---	---	---	---	---	---	---	---
Anthracene	1100000	---	---	---	---	---	---	---	---	---	---
Benzo(a)anthracene	0.3	---	---	---	---	---	---	---	---	---	---
Benzo(a)pyrene	0.3	---	---	---	---	---	---	---	---	---	---
Benzo(b)fluoranthene	0.3	---	---	---	---	---	---	---	---	---	---
Benzo(ghi)perylene	NE	---	---	---	---	---	---	---	---	---	---
Benzo(k)fluoranthene	0.3	---	---	---	---	---	---	---	---	---	---
Chrysene	NE	---	---	---	---	---	---	---	---	---	---
Dibenzo(a,h)anthracene	NE	---	---	---	---	---	---	---	---	---	---
Fluoranthene	3700	---	---	---	---	---	---	---	---	---	---
Fluorene	140000	---	---	---	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	NE	---	---	---	---	---	---	---	---	---	---
Naphthalene	NE	---	---	---	---	---	---	---	---	---	---
Phenanthrene	0.077	---	---	---	---	---	---	---	---	---	---
Pyrene	110000	---	---	---	---	---	---	---	---	---	---
<b>EPH (ug/L)</b>											
C9-C18 Aliphatics (FID)	770	---	---	---	---	---	---	---	---	---	---
C19-C36 Aliphatics (FID)	530	---	---	---	---	---	---	---	---	---	---
C11-C22 Aromatics	250	---	---	---	---	---	---	---	---	---	---
<b>CT ETPH (mg/L)</b>											
ETPH	NE	---	---	---	---	---	---	---	---	---	---
<b>Total Metals (ug/L)</b>											
Arsenic	4	<2.9	<2.9	<b>{11.0}</b>	<b>{12.5}</b>	<2.4	<2.4	<2.9	<2.9	<2.9	<2.4
Lead	13	<1.7	<1.7	2.9BJ	2.9BJ	<1.9	<1.9	<1.7	<1.7	<1.7	<1.9
Selenium	50	<4.8	<4.8	<b>{53.7}</b>	<b>{56.7}</b>	<2.7	<2.7	26	43.1	32.4	35.5
Vanadium	NE	10.6	10.2	161	167	16.1	16	17.3	12.3	<2.8	8.3BJ
Zinc	123	<9.1BU	<5.6BU	<6.0BU	<5.7BU	6.5BJ	12.9BJ	9.1BJ	<6.7BU	<5.4BU	6.9BJ

**Notes:** SWPC = Connecticut Surface Water Protection Criteria.

SWPC for aliphatic and aromatic hydrocarbon ranges from July 2012 CTDEEP technical support document.

--- = Constituent not analyzed for.

NE = Not established

mg/L = milligrams per liter

ug/L = micrograms per liter

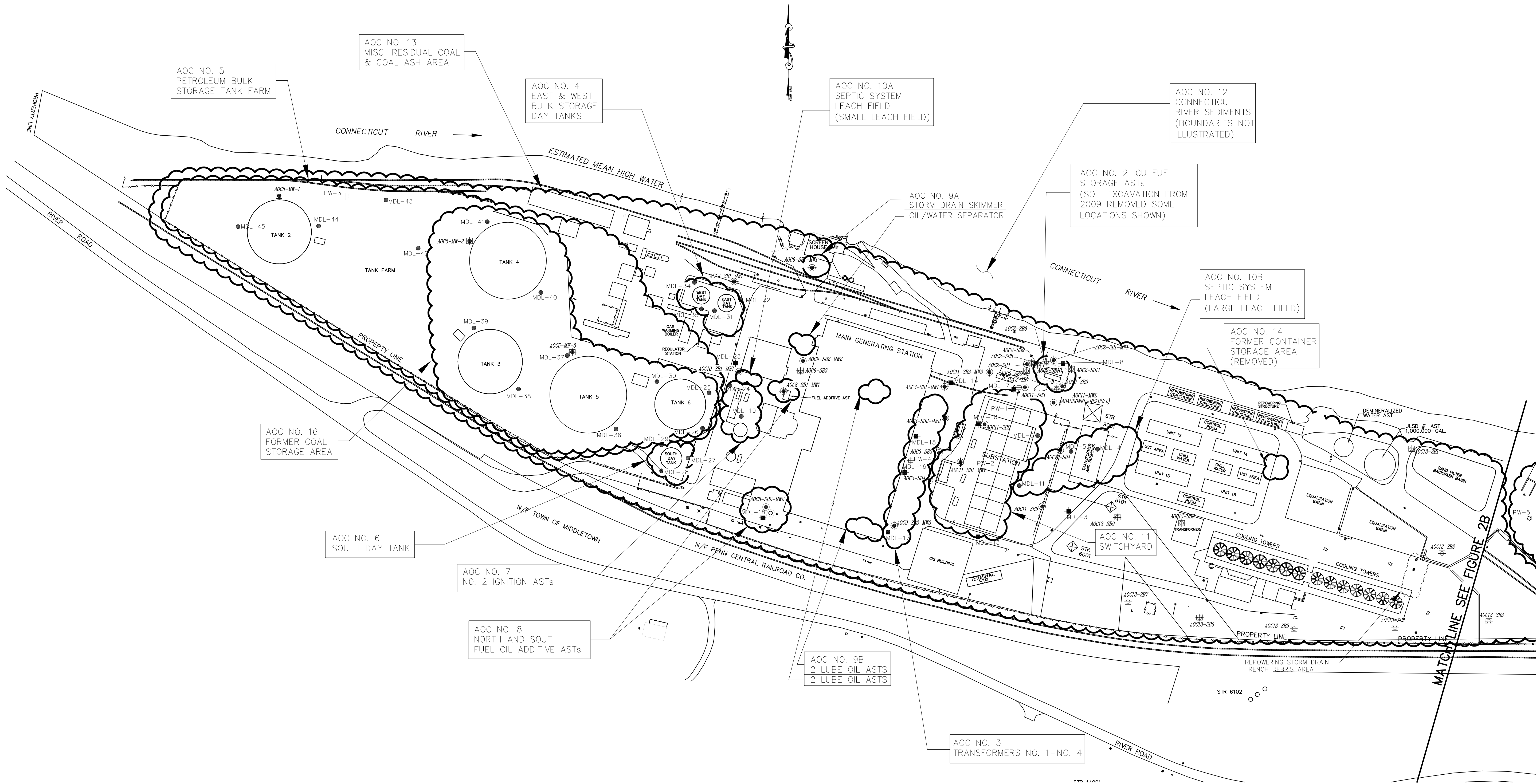
**{Bold}** exceeds least SWPC criteria

B = Estimated value (inorganics) or constituent detected in associated method blank (organics), lab qualifier

J = Estimated value, lab and/or validation qualifier

U = Below detection limit as determined by validator

## FIGURES



LEGEND:

- OAP-16, MDL-1, NRG-SB-1 ● BORING LOCATIONS FROM PHASE II & SUPPLEMENTAL INVESTIGATION
- TW-14 ● EXISTING MONITORING WELL LOCATIONS (RCRA COMPLIANCE MONITORING)
- AOC3-SB9 ● LOCATION OF PHASE III SOIL BORINGS
- AOC7-SB-1/MW1 ● LOCATION OF PHASE III SOIL BORING/MONITORING WELL
- MDL-13 ■ PROPOSED SOIL BORING FROM PHASE II INVESTIGATION (PHYSICAL RESTRAINTS OR UNDERGROUND UTILITY INTERFERENCE PREVENTED PLACEMENT OF BORING).
- PW-1 ▤ PRODUCTION WELL
- ME-SED-03 ▲ PHASE II SEDIMENT SAMPLE LOCATION (1999)
- AOC7A-HA4 ● SUPPLEMENTAL PHASE III HAND AUGER SOIL SAMPLE LOCATION
- AOC1-SB2 ▤ SHAW INSTALLED SOIL BORING
- AOC1-MW1 ● SHAW INSTALLED MONITORING WELL
- NRG-G ● MARCH 2008 SEDIMENT SAMPLE LOCATION
- EXISTING CHAIN LINK FENCE
- APPROXIMATE LIMITS OF AREA OF CONCERN

NOTES:

- 1.) "SITE PLAN-NRG MIDDLETOWN GENERATING STATION, MIDDLETOWN, CONNECTICUT", PREPARED BY NAFIS & YOUNG ENGINEERS, INC. LOCATED AT 1355 MIDDLETOWN AVENUE, NORTHFORD, CONNECTICUT. SCALE 1"=40', SHEET NO. 1, DATED NOVEMBER 13, 2003.
- 2.) "COMPILATION PLAN-MIDDLETOWN GENERATING STATION SEPARATION PLAN SHOWING LAND AND EASEMENT TO BE CONVEYED AND EASEMENT TO BE RESERVED MIDDLETOWN, CONNECTICUT" BY NORTHEAST UTILITIES SERVICE CO. FOR THE CONNECTICUT LIGHT AND POWER COMPANY. SCALE 1"=100', DRAWING NO. 21866 SHEET 1 AND 21866 SHEET 2. DATED 9-15-98.
- 3.) SEDIMENT SAMPLE LOCATION ME-SED-12 COLLECTED DURING THE PHASE II INVESTIGATION IN 1999 IS LOCATED 200 TO 300 FEET UPSTREAM OF WESTERN PROPERTY BOUNDARY.
- 4.) WESTERN PORTION OF SITE INCLUDES AOC2, AOC3, AOC4, AOC5, AOC6, AOC7, AOC8, AOC9A, AOC9B, AOC10A, AOC10B, AOC11, AOC13, AOC 14 AND AOC16.
- 5.) PRODUCTION WELL LOCATIONS FROM NORTHEAST UTILITIES SERVICE COMPANY RCRA "PART B" PLAN DATED MAY 10, 1985.

REFERENCES:

- 1) "AREAS OF CONCERN-EASTERN PORTION OF SITE" PREPARED BY METCALF & EDDY. DATED AUG. 2004. DWG# CZMID003A.DWG 2) "SAMPLE LOCATION PLAN-EASTERN PORTION OF SITE" PREPARED BY METCALF AND EDDY. DATED AUG. 2004. DWG# CZMID002A.DWG 2) SOIL BORING, MONITORING WELL, TOPOGRAPHIC AND WETLAND DELINEATION SURVEY BY A-PLUS CONSTRUCTION DATED MARCH 3, 2008, DWG: TOPO\_SURVEY\_030308



SHAW ENVIRONMENTAL, INC.  
A CB&I COMPANY

DESIGNED BY: --	150 ROYALL STREET CANTON, MASSACHUSETTS (617) 589-5111				
DRAWN BY: CD	FIGURE 1 SITE PLAN - WESTERN NRG ENERGY, INC. - MIDDLETOWN GENERATING STATION MIDDLETOWN, CONNECTICUT				
CHECKED BY: AW					
APPROVED BY: AW	DATE: 02/26/13	SCALE: AS SHOWN	DRAWING NO. 1009634004-01	SHEET NO. --	



- OAP-6, MDL-1, NRG-SB-1 ● BORING LOCATIONS FROM PHASE II & SUPPLEMENTAL INVESTIGATION
- TW-14 ● EXISTING MONITORING WELL LOCATIONS (RCRA COMPLIANCE MONITORING)
- AOC3-SB9 ● LOCATION OF PHASE III SOIL BORINGS
- AOC7-SB-1/MW1 ● LOCATION OF PHASE III SOIL BORING/MONITORING WELL
- ME-SED-03 ▲ PHASE II SEDIMENT SAMPLE LOCATION
- AQC7A-HA4 ● SUPPLEMENTAL PHASE III HAND AUGER SOIL SAMPLE LOCATION
- MDL-1/OAP-3 ■ PROPOSED SOIL BORING FROM PHASE II INVESTIGATION (PHYSICAL RESTRAINTS OR UNDERGROUND UTILITY INFERENCE PREVENTED PLACEMENT OF BORING).
- PW-5 ⊕ PRODUCTION WELL

- LEGEND:
- AOC1-SB2 ⊕ SHAW INSTALLED SOIL BORING
- AOC1-MW1R ⊕ SHAW INSTALLED MONITORING WELL
- AOC1-MW1 ⊕ WELL REPLACED
- SP-1 ⊗ WETLAND SAMPLE POINT
- W1-1 ▸ WETLAND POINT
- INTERMITTENT STREAM
- x-x-x-x- EXISTING CHAIN LINK FENCE
- WETLAND DELINEATION LINE
- ~ ~ ~ ~ ~ APPROXIMATE LIMITS OF AREA OF CONCERN

- NOTES:
- 1.) "SITE PLAN-NRG MIDDLETOWN GENERATING STATION, MIDDLETOWN, CONNECTICUT", PREPARED BY NAFIS & YOUNG ENGINEERS, INC. LOCATED AT 1355 MIDDLETOWN AVENUE, NORTHFORD, CONNECTICUT. SCALE 1"=40', SHEET NO. 1, DATED NOVEMBER 13, 2003.
- 2.) "COMPILATION PLAN-MIDDLETOWN GENERATING STATION SEPARATION PLAN SHOWING LAND AND EASEMENT TO BE CONVEYED AND EASEMENT TO BE RESERVED MIDDLETOWN, CONNECTICUT" BY NORTHEAST UTILITIES SERVICE CO. FOR THE CONNECTICUT LIGHT AND POWER COMPANY. SCALE 1"=100', DRAWING NO. 21866 SHEET 1 AND 21866 SHEET 2. DATED 9-15-98.
- 3.) SEDIMENT SAMPLE LOCATION ME-SED-12 COLLECTED DURING THE PHASE II INVESTIGATION IN 1999 IS LOCATED 200 TO 300 FEET UPSTREAM OF WESTERN PROPERTY BOUNDARY.
- 4.) EASTERN PORTION OF SITE INCLUDES AOC1 AND AOC15.
- 5.) PRODUCTION WELL LOCATIONS FROM NORTHEAST UTILITIES SERVICE COMPANY RCRA "PART B" PLAN DATED MAY 20, 1985.
- 6.) MONITORING WELL AOC1-MW1R AND AOC1-MW2 LOCATIONS ARE APPROXIMATE, AND ARE NOT YET SURVEYED.

- REFERENCES:
- 1) "AREAS OF CONCERN-EASTERN PORTION OF SITE" PREPARED BY METCALF & EDDY. DATED AUG. 2004. DWG# CZMID003A.DWG 2) "SAMPLE LOCATION PLAN-EASTERN PORTION OF SITE" PREPARED BY METCALF AND EDDY. DATED AUG. 2004. DWG# CZMID002A.DWG 3) SOIL BORING, MONITORING WELL, TOPOGRAPHIC, AND WETLAND DELINEATION SURVEY BY A-PLUS CONSTRUCTION DATED MARCH 3, 2008, DWG: TOPO\_SURVEY\_030308 4) "STOCK PILE VOLUME PLAN" BY A-PLUS CONSTRUCTION DATED OCTOBER, 2008.

		SHAW ENVIRONMENTAL, INC. A CBI COMPANY			
DESIGNED BY:	---	150 ROYALL STREET CANTON, MASSACHUSETTS (617) 589-5111			
DRAWN BY:	CD				
CHECKED BY:	JM	FIGURE 2 SITE PLAN - EASTERN NRG ENERGY, INC - MIDDLETOWN GENERATING STATION MIDDLETOWN, CONNECTICUT			
APPROVED BY:	AW				
DATE:	02/26/13	SCALE:	AS SHOWN	DRAWING NO.	1009634004-01
				SHEET NO.	--

## **ATTACHMENT 1**

## Data Usability Worksheet

Project Name :	NRG Middletown	Job Number :	1009634026
Prepared By:	Jennifer Galley	Date :	10/6/2014
Validated By:	Kim Napier	Date :	10/9/2014
Matrix:	Groundwater		
Analyte Group :	MADEP Metals	Analytical Method :	EPA 6010C EPA 6020A
Completed RPC Certification Form Included: Yes		Laboratory ID No. :	MC33726
Chain of Custody Included In Data Package ? Yes		Is it Complete ? Yes	

Sample Collection Date	Analysis	Allowable Holding Time for extraction	Allowable Holding Time for analysis	Analysis Date
9/18/2014	6010C		180 Days	9/23/14
9/18/2014	8270		180 Days	10/3/14
9/18/2014	MADEP EPH	14 Days	40 Days	9/30/14

Sample temperature within QC limits: Yes, < 6.0° C

### Surrogate Recovery

Are all % recoveries within the allowable range ? No

If No, List sample ID where range was exceeded: See Notes

### MS/MSD

Are all MS/MSD sample recoveries within the QC limits ? Yes

If No, list sample ID, date and compound where limit was exceeded: NA

### Laboratory Control Samples

Are all laboratory control sample recoveries within the QC limits ? NA

If no, list sample ID where range was exceeded: See Notes

Equipment Field Blank ID :

EB-1

Trip Blank ID :

None

Method Blank:	6010 C	9/22/2014
	8270	9/23/2014
	MADEP EPH	9/30/2014

Were any compounds identified in the method blank, field blank or trip blank above detection limits ? Yes

If so, list Sample ID/Compound/Concentration/Units: 0.14 ug/l of Naphthalene was detected in Method blank OP39916-MB for 8270 by SIM

### Notes:

#### Surrogate Recoveries:

limits, however, this appears to be due to the surrogate standard not being added to the analysis. 1-Chlorooctadecane is not a contaminant of concern. Surrogate recoveries for SW846 8270D by SIM were within QC limits for 2-Fluorobiphenyl. Surrogate compounds Nitrobenzene-d5 & Terphenyl-d14 were not added for this fraction. No qualification necessary.

Surrogate Recoveries for MADEP EPH REV 1.1 for 1-Chlorooctadecane standard were below QC limits (40-140%) for AOC8-SB1-MW1 & AOC9-SB2-MW2 with %36 R's for both samples. Results for these samples were qualified "J"/"U" for reported compounds as applicable.

Sample(s) MC33726-1, MC33726-2, MC33726-4, MC33726-5 have compound(s) reported with a "B" qualifier, indicating analyte is found in the associated method blank. Naphthalene (1.0ug/L), Phenanthrene (0.075ug/L) and ZN (5.9ug/L) were detected in the equipment blank. Results for samples with results less than 5X the blank concentrations for these contaminants were qualified "U".

OP39916-MB/BS, MC33726-1-6 for Nitrobenzene-d5, Terphenyl-d14: Surrogate standard not added. EPH extract analyzed. No qualification necessary.

RPD(s) for Serial Dilution for Selenium, Vanadium are outside control limits for sample MP23626-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL). No qualification necessary.

RPD(s) for MP23626-SD1 for Zinc: Serial Dilution RPD acceptable due to low duplicate and sample concentrations. No qualification necessary.

### Reviewed By:

Results reported less than the RL were qualified "J" unless "U" qualified due to blank contamination.

## Report of Analysis

Page 1 of 1

Client Sample ID:	AOC5-MW1	Date Sampled:	09/18/14
Lab Sample ID:	MC33726-1	Date Received:	09/18/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D BY SIM SW846 3510C		
Project:	NRG Middletown, 1866 River Road, Middletown, CT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I91984.D	1	10/03/14	WK	09/23/14	OP39916	MSI3429
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.20	0.14	ug/l	
208-96-8	Acenaphthylene	ND	0.20	0.099	ug/l	
120-12-7	Anthracene	ND	0.20	0.18	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.10	0.039	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.057	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.063	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.054	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.077	ug/l	
218-01-9	Chrysene	ND	0.20	0.048	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.064	ug/l	
206-44-0	Fluoranthene	ND	0.20	0.081	ug/l	
86-73-7	Fluorene	ND	0.20	0.20	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.061	ug/l	
91-57-6	2-Methylnaphthalene	1.4	0.40	0.25	ug/l	
91-20-3	Naphthalene	1.4	0.20	0.082	ug/l	B u
85-01-8	Phenanthrene	0.23	0.10	0.025	ug/l	u
129-00-0	Pyrene	ND	0.20	0.077	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	0% <sup>a</sup>		30-130%
321-60-8	2-Fluorobiphenyl	84%		30-130%
1718-51-0	Terphenyl-d14	0% <sup>a</sup>		30-130%

(a) Surrogate standard not added. EPH extract analyzed.

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID:	AOC5-MW1	Date Sampled:	09/18/14
Lab Sample ID:	MC33726-1	Date Received:	09/18/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	MADEP EPH REV 1.1 SW846 3510C		
Project:	NRG Middletown, 1866 River Road, Middletown, CT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DE6586.D	1	09/30/14	SZ	09/23/14	OP39915	GDE450
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

## Extractable TPHC Ranges

CAS No.	Compound	Result	RL	MDL	Units	Q
	C11-C22 Aromatics (Unadj.)	ND	100	100	ug/l	
	C9-C18 Aliphatics	ND	100	100	ug/l	
	C19-C36 Aliphatics	ND	100	100	ug/l	
	C11-C22 Aromatics	ND	100	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	89%		40-140%
321-60-8	2-Fluorobiphenyl	86%		40-140%
3386-33-2	1-Chlorooctadecane	53%		40-140%
580-13-2	2-Bromonaphthalene	87%		40-140%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound



## Report of Analysis

Page 1 of 1

Client Sample ID:	AOC8-SB1-MW1	Date Sampled:	09/18/14
Lab Sample ID:	MC33726-3	Date Received:	09/18/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D BY SIM SW846 3510C		
Project:	NRG Middletown, 1866 River Road, Middletown, CT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I91986.D	1	10/03/14	WK	09/23/14	OP39916	MSI3429
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	1.2	0.20	0.14	ug/l	
208-96-8	Acenaphthylene	0.22	0.20	0.099	ug/l	
120-12-7	Anthracene	ND	0.20	0.18	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.10	0.039	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.057	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.063	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.054	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.077	ug/l	
218-01-9	Chrysene	ND	0.20	0.048	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.064	ug/l	
206-44-0	Fluoranthene	ND	0.20	0.081	ug/l	
86-73-7	Fluorene	2.1	0.20	0.20	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.061	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.40	0.25	ug/l	
91-20-3	Naphthalene	1.6	0.20	0.082	ug/l	u
85-01-8	Phenanthrene	0.91	0.10	0.025	ug/l	
129-00-0	Pyrene	0.093	0.20	0.077	ug/l	J J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	0% <sup>a</sup>		30-130%
321-60-8	2-Fluorobiphenyl	90%		30-130%
1718-51-0	Terphenyl-d14	0% <sup>a</sup>		30-130%

(a) Surrogate standard not added. EPH extract analyzed.

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

Page 1 of 1

Client Sample ID:	AOC8-SB1-MW1	Date Sampled:	09/18/14
Lab Sample ID:	MC33726-3	Date Received:	09/18/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	MADEP EPH REV 1.1 SW846 3510C		
Project:	NRG Middletown, 1866 River Road, Middletown, CT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DE6588.D	1	09/30/14	SZ	09/23/14	OP39915	GDE450
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

## Extractable TPHC Ranges

CAS No.	Compound	Result	RL	MDL	Units	Q
	C11-C22 Aromatics (Unadj.)	285	100	100	ug/l	J ↓
	C9-C18 Aliphatics	202	100	100	ug/l	
	C19-C36 Aliphatics	209	100	100	ug/l	
	C11-C22 Aromatics	282	100	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	79%		40-140%
321-60-8	2-Fluorobiphenyl	83%		40-140%
3386-33-2	1-Chlorooctadecane	36% <sup>a</sup>		40-140%
580-13-2	2-Bromonaphthalene	84%		40-140%

(a) Outside control limits due to possible matrix interference. Confirmed by refractionation/reanalysis.

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

Page 1 of 1

Client Sample ID:	AOC8-SB1-MW1 DUP	Date Sampled:	09/18/14
Lab Sample ID:	MC33726-4	Date Received:	09/18/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D BY SIM SW846 3510C		
Project:	NRG Middletown, 1866 River Road, Middletown, CT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I91987.D	1	10/03/14	WK	09/23/14	OP39916	MSI3429
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	1.2	0.20	0.14	ug/l	
208-96-8	Acenaphthylene	0.23	0.20	0.099	ug/l	
120-12-7	Anthracene	ND	0.20	0.18	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.10	0.039	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.057	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.063	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.054	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.077	ug/l	
218-01-9	Chrysene	ND	0.20	0.048	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.064	ug/l	
206-44-0	Fluoranthene	ND	0.20	0.081	ug/l	
86-73-7	Fluorene	2.0	0.20	0.20	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.061	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.40	0.25	ug/l	
91-20-3	Naphthalene	1.2	0.20	0.082	ug/l	B U
85-01-8	Phenanthrene	0.88	0.10	0.025	ug/l	
129-00-0	Pyrene	0.099	0.20	0.077	ug/l	J J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	0% <sup>a</sup>		30-130%
321-60-8	2-Fluorobiphenyl	90%		30-130%
1718-51-0	Terphenyl-d14	0% <sup>a</sup>		30-130%

(a) Surrogate standard not added. EPH extract analyzed.

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

Client Sample ID: AOC8-SB1-MW1 DUP

Lab Sample ID: MC33726-4

Date Sampled: 09/18/14

Matrix: AQ - Ground Water

Date Received: 09/18/14

Method: MADEP EPH REV 1.1 SW846 3510C

Percent Solids: n/a

Project: NRG Middletown, 1866 River Road, Middletown, CT

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DE6589.D	1	09/30/14	SZ	09/23/14	OP39915	GDE450
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

## Extractable TPHC Ranges

CAS No.	Compound	Result	RL	MDL	Units	Q
	C11-C22 Aromatics (Unadj.)	317	100	100	ug/l	
	C9-C18 Aliphatics	251	100	100	ug/l	
	C19-C36 Aliphatics	197	100	100	ug/l	
	C11-C22 Aromatics	313	100	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	69%		40-140%
321-60-8	2-Fluorobiphenyl	86%		40-140%
3386-33-2	1-Chlorooctadecane	61%		40-140%
580-13-2	2-Bromonaphthalene	86%		40-140%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

Page 1 of 1

Client Sample ID:	AOC9-SB2-MW2	Date Sampled:	09/18/14
Lab Sample ID:	MC33726-5	Date Received:	09/18/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D BY SIM SW846 3510C		
Project:	NRG Middletown, 1866 River Road, Middletown, CT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I91988.D	1	10/03/14	WK	09/23/14	OP39916	MSI3429
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.20	0.14	ug/l	
208-96-8	Acenaphthylene	ND	0.20	0.099	ug/l	
120-12-7	Anthracene	ND	0.20	0.18	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.10	0.039	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.057	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.063	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.054	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.077	ug/l	
218-01-9	Chrysene	ND	0.20	0.048	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.064	ug/l	
206-44-0	Fluoranthene	ND	0.20	0.081	ug/l	
86-73-7	Fluorene	ND	0.20	0.20	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.061	ug/l	
91-57-6	2-Methylnaphthalene	0.53	0.40	0.25	ug/l	
91-20-3	Naphthalene	1.0	0.20	0.082	ug/l	B U
85-01-8	Phenanthrene	0.062	0.10	0.025	ug/l	J U
129-00-0	Pyrene	ND	0.20	0.077	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	0% <sup>a</sup>		30-130%
321-60-8	2-Fluorobiphenyl	93%		30-130%
1718-51-0	Terphenyl-d14	0% <sup>a</sup>		30-130%

(a) Surrogate standard not added. EPH extract analyzed.

ND = Not detected MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

Page 1 of 1

Client Sample ID:	AOC9-SB2-MW2	Date Sampled:	09/18/14
Lab Sample ID:	MC33726-5	Date Received:	09/18/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	MADEP EPH REV 1.1 SW846 3510C		
Project:	NRG Middletown, 1866 River Road, Middletown, CT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DE6590.D	1	09/30/14	SZ	09/23/14	OP39915	GDE450
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

## Extractable TPHC Ranges

CAS No.	Compound	Result	RL	MDL	Units	Q
	C11-C22 Aromatics (Unadj.)	ND	100	100	ug/l	
	C9-C18 Aliphatics	ND	100	100	ug/l	
	C19-C36 Aliphatics	ND	100	100	ug/l	
	C11-C22 Aromatics	ND	100	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	52%		40-140%
321-60-8	2-Fluorobiphenyl	86%		40-140%
3386-33-2	1-Chlorooctadecane	36% <sup>a</sup>		40-140%
580-13-2	2-Bromonaphthalene	84%		40-140%

(a) Outside control limits due to possible matrix interference. Confirmed by refractionation/reanalysis.

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

Page 1 of 1

Client Sample ID: AOC9-SB2-MW2  
 Lab Sample ID: MC33726-5  
 Matrix: AQ - Ground Water

Date Sampled: 09/18/14  
 Date Received: 09/18/14  
 Percent Solids: n/a

Project: NRG Middletown, 1866 River Road, Middletown, CT

## Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	3.5 B <sup>1</sup>	4.0	2.4	ug/l	1	09/22/14	09/23/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Lead	1.9 U	5.0	1.9	ug/l	1	09/22/14	09/23/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Selenium	2.7 U	10	2.7	ug/l	1	09/22/14	09/23/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	0.72 U	10	0.72	ug/l	1	09/22/14	09/23/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	91.1	20	4.2	ug/l	1	09/22/14	09/23/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17541

(2) Prep QC Batch: MP23626

RL = Reporting Limit  
 MDL = Method Detection Limit

U = Indicates a result < MDL  
 B = Indicates a result >= MDL but < RL

## Report of Analysis

Page 1 of 1

Client Sample ID:	AOC9-SB1-MW1	Date Sampled:	09/18/14
Lab Sample ID:	MC33726-6	Date Received:	09/18/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270D BY SIM SW846 3510C		
Project:	NRG Middletown, 1866 River Road, Middletown, CT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I91989.D	1	10/03/14	WK	09/23/14	OP39916	MSI3429
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.20	0.14	ug/l	
208-96-8	Acenaphthylene	ND	0.20	0.099	ug/l	
120-12-7	Anthracene	ND	0.20	0.18	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.10	0.039	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.057	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.063	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.054	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.077	ug/l	
218-01-9	Chrysene	ND	0.20	0.048	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.064	ug/l	
206-44-0	Fluoranthene	ND	0.20	0.081	ug/l	
86-73-7	Fluorene	ND	0.20	0.20	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.061	ug/l	
91-57-6	2-Methylnaphthalene	1.0	0.40	0.25	ug/l	
91-20-3	Naphthalene	1.5	0.20	0.082	ug/l	U
85-01-8	Phenanthrene	0.089	0.10	0.025	ug/l	J U
129-00-0	Pyrene	ND	0.20	0.077	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	0% <sup>a</sup>		30-130%
321-60-8	2-Fluorobiphenyl	95%		30-130%
1718-51-0	Terphenyl-d14	0% <sup>a</sup>		30-130%

(a) Surrogate standard not added. EPH extract analyzed.

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound



## Report of Analysis

Page 1 of 1

Client Sample ID:	AOC9-SB1-MW1	Date Sampled:	09/18/14
Lab Sample ID:	MC33726-6	Date Received:	09/18/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	MADEP EPH REV 1.1 SW846 3510C		
Project:	NRG Middletown, 1866 River Road, Middletown, CT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DE6591.D	1	09/30/14	SZ	09/23/14	OP39915	GDE450
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

## Extractable TPHC Ranges

CAS No.	Compound	Result	RL	MDL	Units	Q
	C11-C22 Aromatics (Unadj.)	ND	100	100	ug/l	
	C9-C18 Aliphatics	ND	100	100	ug/l	
	C19-C36 Aliphatics	ND	100	100	ug/l	
	C11-C22 Aromatics	ND	100	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	101%		40-140%
321-60-8	2-Fluorobiphenyl	88%		40-140%
3386-33-2	1-Chlorooctadecane	75%		40-140%
580-13-2	2-Bromonaphthalene	86%		40-140%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

Page 1 of 1

Client Sample ID:	AOC9-SB1-MW1	Date Sampled:	09/18/14
Lab Sample ID:	MC33726-6	Date Received:	09/18/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	NRG Middletown, 1866 River Road, Middletown, CT		

## Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	09/22/14	09/23/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17541

(2) Prep QC Batch: MP23626

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
B = Indicates a result > = MDL but < RL



10/03/14

## Technical Report for

### Shaw Environmental & Infrastructure

NRG Middletown, 1866 River Road, Middletown, CT

1009634026-02000000

Accutest Job Number: MC33726

Sampling Date: 09/18/14

### Report to:

CB&I  
150 Royall Street  
Cantonton, MA 02021  
andrew.walker@shawgrp.com; catherine.joe@cbi.com  
  
ATTN: Andrew Walker

Total number of pages in report: **43**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

*Reza Fand*  
Reza Fand  
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.  
Test results relate only to samples analyzed.

# Table of Contents

-1-

<b>Section 1: Sample Summary .....</b>	<b>3</b>
<b>Section 2: Case Narrative/Conformance Summary .....</b>	<b>4</b>
<b>Section 3: Summary of Hits .....</b>	<b>5</b>
<b>Section 4: Sample Results .....</b>	<b>7</b>
<b>4.1:</b> MC33726-1: AOC5-MW1 .....	8
<b>4.2:</b> MC33726-2: EB-1 .....	10
<b>4.3:</b> MC33726-3: AOC8-SB1-MW1 .....	13
<b>4.4:</b> MC33726-4: AOC8-SB1-MW1 DUP .....	15
<b>4.5:</b> MC33726-5: AOC9-SB2-MW2 .....	17
<b>4.6:</b> MC33726-6: AOC9-SB1-MW1 .....	20
<b>Section 5: Misc. Forms .....</b>	<b>23</b>
<b>5.1:</b> Chain of Custody .....	24
<b>5.2:</b> RCP Form .....	26
<b>5.3:</b> Sample Tracking Chronicle .....	27
<b>Section 6: GC/MS Semi-volatiles - QC Data Summaries .....</b>	<b>28</b>
<b>6.1:</b> Method Blank Summary .....	29
<b>6.2:</b> Blank Spike Summary .....	30
<b>6.3:</b> Internal Standard Area Summaries .....	31
<b>6.4:</b> Surrogate Recovery Summaries .....	32
<b>Section 7: GC Semi-volatiles - QC Data Summaries .....</b>	<b>33</b>
<b>7.1:</b> Method Blank Summary .....	34
<b>7.2:</b> Blank Spike/Blank Spike Duplicate Summary .....	35
<b>7.3:</b> Surrogate Recovery Summaries .....	36
<b>Section 8: Metals Analysis - QC Data Summaries .....</b>	<b>37</b>
<b>8.1:</b> Prep QC MP23626: As,Pb,Se,V,Zn .....	38



Sample Summary

Shaw Environmental & Infrastructure

Job No: MC33726

NRG Middletown, 1866 River Road, Middletown, CT  
Project No: 1009634026-02000000

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC33726-1	09/18/14	09:45 DL	09/18/14	AQ	Ground Water	AOC5-MW1
MC33726-2	09/18/14	10:00 DL	09/18/14	AQ	Equipment Blank	EB-1
MC33726-3	09/18/14	10:35 DL	09/18/14	AQ	Ground Water	AOC8-SB1-MW1
MC33726-4	09/18/14	10:35 DL	09/18/14	AQ	Ground Water	AOC8-SB1-MW1 DUP
MC33726-5	09/18/14	11:35 DL	09/18/14	AQ	Ground Water	AOC9-SB2-MW2
MC33726-6	09/18/14	12:35 DL	09/18/14	AQ	Ground Water	AOC9-SB1-MW1

## SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** Shaw Environmental & Infrastructure

**Job No** MC33726

**Site:** NRG Middletown, 1866 River Road, Middletown, CT

**Report Date** 10/3/2014 3:13:16 PM

6 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 09/18/2014 and were received at Accutest on 09/18/2014 properly preserved, at 0.8 Deg. C and intact. These Samples received an Accutest job number of MC33726. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

### Extractables by GCMS By Method SW846 8270D BY SIM

**Matrix:** AQ

**Batch ID:** OP39916

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- PAH Sim requested.
- Sample(s) MC33726-1, MC33726-2, MC33726-4, MC33726-5 have compound(s) reported with a "B" qualifier, indicating analyte is found in the associated method blank.
- OP39916-MB/BS, MC33726-1-6 for Nitrobenzene-d5, Terphenyl-d14: Surrogate standard not added. EPH extract analyzed.

### Extractables by GC By Method MADEP EPH REV 1.1

**Matrix:** AQ

**Batch ID:** OP39915

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Only carbon ranges requested.
- MC33726-3, 5 for 1-Chlorooctadecane: Outside control limits due to possible matrix interference. Confirmed by refractionation/reanalysis.

### Metals By Method SW846 6010C

**Matrix:** AQ

**Batch ID:** MP23626

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC33727-2SDL were used as the QC samples for metals.
- Only selected metals requested.
- RPD(s) for Serial Dilution for Selenium, Vanadium are outside control limits for sample MP23626-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- RPD(s) for MP23626-SD1 for Zinc: Serial Dilution RPD acceptable due to low duplicate and sample concentrations.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report (MC33726).

## Summary of Hits

**Job Number:** MC33726  
**Account:** Shaw Environmental & Infrastructure  
**Project:** NRG Middletown, 1866 River Road, Middletown, CT  
**Collected:** 09/18/14

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
--------------------------	------------------	-----------------	----	-----	-------	--------

### MC33726-1 AOC5-MW1

2-Methylnaphthalene	1.4	0.40	0.25	ug/l	SW846 8270D BY SIM
Naphthalene	1.4 B	0.20	0.082	ug/l	SW846 8270D BY SIM
Phenanthrene	0.23	0.10	0.025	ug/l	SW846 8270D BY SIM

### MC33726-2 EB-1

2-Methylnaphthalene	0.61	0.38	0.24	ug/l	SW846 8270D BY SIM
Naphthalene	1.0 B	0.19	0.077	ug/l	SW846 8270D BY SIM
Phenanthrene	0.075 J	0.094	0.024	ug/l	SW846 8270D BY SIM
Zinc	5.9 B	20	4.2	ug/l	SW846 6010C

### MC33726-3 AOC8-SB1-MW1

Acenaphthene	1.2	0.20	0.14	ug/l	SW846 8270D BY SIM
Acenaphthylene	0.22	0.20	0.099	ug/l	SW846 8270D BY SIM
Fluorene	2.1	0.20	0.20	ug/l	SW846 8270D BY SIM
Naphthalene	1.6	0.20	0.082	ug/l	SW846 8270D BY SIM
Phenanthrene	0.91	0.10	0.025	ug/l	SW846 8270D BY SIM
Pyrene	0.093 J	0.20	0.077	ug/l	SW846 8270D BY SIM
C11-C22 Aromatics (Unadj.)	285	100	100	ug/l	MADEP EPH REV 1.1
C9-C18 Aliphatics	202	100	100	ug/l	MADEP EPH REV 1.1
C19-C36 Aliphatics	209	100	100	ug/l	MADEP EPH REV 1.1
C11-C22 Aromatics	282	100	100	ug/l	MADEP EPH REV 1.1

### MC33726-4 AOC8-SB1-MW1 DUP

Acenaphthene	1.2	0.20	0.14	ug/l	SW846 8270D BY SIM
Acenaphthylene	0.23	0.20	0.099	ug/l	SW846 8270D BY SIM
Fluorene	2.0	0.20	0.20	ug/l	SW846 8270D BY SIM
Naphthalene	1.2 B	0.20	0.082	ug/l	SW846 8270D BY SIM
Phenanthrene	0.88	0.10	0.025	ug/l	SW846 8270D BY SIM
Pyrene	0.099 J	0.20	0.077	ug/l	SW846 8270D BY SIM
C11-C22 Aromatics (Unadj.)	317	100	100	ug/l	MADEP EPH REV 1.1
C9-C18 Aliphatics	251	100	100	ug/l	MADEP EPH REV 1.1
C19-C36 Aliphatics	197	100	100	ug/l	MADEP EPH REV 1.1
C11-C22 Aromatics	313	100	100	ug/l	MADEP EPH REV 1.1

### MC33726-5 AOC9-SB2-MW2

2-Methylnaphthalene	0.53	0.40	0.25	ug/l	SW846 8270D BY SIM
Naphthalene	1.0 B	0.20	0.082	ug/l	SW846 8270D BY SIM
Phenanthrene	0.062 J	0.10	0.025	ug/l	SW846 8270D BY SIM
Arsenic	3.5 B	4.0	2.4	ug/l	SW846 6010C

Summary of Hits

**Job Number:** MC33726  
**Account:** Shaw Environmental & Infrastructure  
**Project:** NRG Middletown, 1866 River Road, Middletown, CT  
**Collected:** 09/18/14



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Analyte						
Zinc		91.1	20	4.2	ug/l	SW846 6010C
MC33726-6		AOC9-SB1-MW1				
2-Methylnaphthalene		1.0	0.40	0.25	ug/l	SW846 8270D BY SIM
Naphthalene		1.5	0.20	0.082	ug/l	SW846 8270D BY SIM
Phenanthrene		0.089 J	0.10	0.025	ug/l	SW846 8270D BY SIM



## Sample Results

## Report of Analysis

## Report of Analysis

<b>Client Sample ID:</b>	AOC5-MW1	<b>Date Sampled:</b>	09/18/14
<b>Lab Sample ID:</b>	MC33726-1	<b>Date Received:</b>	09/18/14
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8270D BY SIM SW846 3510C		
<b>Project:</b>	NRG Middletown, 1866 River Road, Middletown, CT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I91984.D	1	10/03/14	WK	09/23/14	OP39916	MSI3429
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.20	0.14	ug/l	
208-96-8	Acenaphthylene	ND	0.20	0.099	ug/l	
120-12-7	Anthracene	ND	0.20	0.18	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.10	0.039	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.057	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.063	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.054	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.077	ug/l	
218-01-9	Chrysene	ND	0.20	0.048	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.064	ug/l	
206-44-0	Fluoranthene	ND	0.20	0.081	ug/l	
86-73-7	Fluorene	ND	0.20	0.20	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.061	ug/l	
91-57-6	2-Methylnaphthalene	1.4	0.40	0.25	ug/l	
91-20-3	Naphthalene	1.4	0.20	0.082	ug/l	B
85-01-8	Phenanthrene	0.23	0.10	0.025	ug/l	
129-00-0	Pyrene	ND	0.20	0.077	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	0% <sup>a</sup>		30-130%
321-60-8	2-Fluorobiphenyl	84%		30-130%
1718-51-0	Terphenyl-d14	0% <sup>a</sup>		30-130%

(a) Surrogate standard not added. EPH extract analyzed.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	AOC5-MW1	<b>Date Sampled:</b>	09/18/14
<b>Lab Sample ID:</b>	MC33726-1	<b>Date Received:</b>	09/18/14
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	MADEP EPH REV 1.1 SW846 3510C		
<b>Project:</b>	NRG Middletown, 1866 River Road, Middletown, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DE6586.D	1	09/30/14	SZ	09/23/14	OP39915	GDE450
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

## Extractable TPHC Ranges

CAS No.	Compound	Result	RL	MDL	Units	Q
	C11-C22 Aromatics (Unadj.)	ND	100	100	ug/l	
	C9-C18 Aliphatics	ND	100	100	ug/l	
	C19-C36 Aliphatics	ND	100	100	ug/l	
	C11-C22 Aromatics	ND	100	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	89%		40-140%
321-60-8	2-Fluorobiphenyl	86%		40-140%
3386-33-2	1-Chlorooctadecane	53%		40-140%
580-13-2	2-Bromonaphthalene	87%		40-140%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	EB-1	<b>Date Sampled:</b>	09/18/14
<b>Lab Sample ID:</b>	MC33726-2	<b>Date Received:</b>	09/18/14
<b>Matrix:</b>	AQ - Equipment Blank	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8270D BY SIM SW846 3510C		
<b>Project:</b>	NRG Middletown, 1866 River Road, Middletown, CT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I91985.D	1	10/03/14	WK	09/23/14	OP39916	MSI3429
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1070 ml	2.0 ml
Run #2		

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.19	0.13	ug/l	
208-96-8	Acenaphthylene	ND	0.19	0.093	ug/l	
120-12-7	Anthracene	ND	0.19	0.17	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.094	0.037	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.19	0.054	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.094	0.059	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.19	0.051	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.19	0.072	ug/l	
218-01-9	Chrysene	ND	0.19	0.045	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.19	0.060	ug/l	
206-44-0	Fluoranthene	ND	0.19	0.076	ug/l	
86-73-7	Fluorene	ND	0.19	0.19	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.19	0.057	ug/l	
91-57-6	2-Methylnaphthalene	0.61	0.38	0.24	ug/l	
91-20-3	Naphthalene	1.0	0.19	0.077	ug/l	B
85-01-8	Phenanthrene	0.075	0.094	0.024	ug/l	J
129-00-0	Pyrene	ND	0.19	0.072	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	0% <sup>a</sup>		30-130%
321-60-8	2-Fluorobiphenyl	83%		30-130%
1718-51-0	Terphenyl-d14	0% <sup>a</sup>		30-130%

(a) Surrogate standard not added. EPH extract analyzed.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	EB-1	<b>Date Sampled:</b>	09/18/14
<b>Lab Sample ID:</b>	MC33726-2	<b>Date Received:</b>	09/18/14
<b>Matrix:</b>	AQ - Equipment Blank	<b>Percent Solids:</b>	n/a
<b>Method:</b>	MADEP EPH REV 1.1 SW846 3510C		
<b>Project:</b>	NRG Middletown, 1866 River Road, Middletown, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DE6587.D	1	09/30/14	SZ	09/23/14	OP39915	GDE450
Run #2							

	Initial Volume	Final Volume
Run #1	1070 ml	2.0 ml
Run #2		

## Extractable TPHC Ranges

CAS No.	Compound	Result	RL	MDL	Units	Q
	C11-C22 Aromatics (Unadj.)	ND	94	94	ug/l	
	C9-C18 Aliphatics	ND	94	94	ug/l	
	C19-C36 Aliphatics	ND	94	94	ug/l	
	C11-C22 Aromatics	ND	94	94	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	91%		40-140%
321-60-8	2-Fluorobiphenyl	88%		40-140%
3386-33-2	1-Chlorooctadecane	46%		40-140%
580-13-2	2-Bromonaphthalene	86%		40-140%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b> EB-1	<b>Date Sampled:</b> 09/18/14
<b>Lab Sample ID:</b> MC33726-2	<b>Date Received:</b> 09/18/14
<b>Matrix:</b> AQ - Equipment Blank	<b>Percent Solids:</b> n/a
<b>Project:</b> NRG Middletown, 1866 River Road, Middletown, CT	

## Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	09/22/14	09/23/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Lead	1.9 U	5.0	1.9	ug/l	1	09/22/14	09/23/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Selenium	2.7 U	10	2.7	ug/l	1	09/22/14	09/23/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	0.72 U	10	0.72	ug/l	1	09/22/14	09/23/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	5.9 B	20	4.2	ug/l	1	09/22/14	09/23/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17541

(2) Prep QC Batch: MP23626

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
B = Indicates a result > = MDL but < RL

## Report of Analysis

<b>Client Sample ID:</b>	AOC8-SB1-MW1	<b>Date Sampled:</b>	09/18/14
<b>Lab Sample ID:</b>	MC33726-3	<b>Date Received:</b>	09/18/14
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8270D BY SIM SW846 3510C		
<b>Project:</b>	NRG Middletown, 1866 River Road, Middletown, CT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I91986.D	1	10/03/14	WK	09/23/14	OP39916	MSI3429
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	1.2	0.20	0.14	ug/l	
208-96-8	Acenaphthylene	0.22	0.20	0.099	ug/l	
120-12-7	Anthracene	ND	0.20	0.18	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.10	0.039	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.057	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.063	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.054	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.077	ug/l	
218-01-9	Chrysene	ND	0.20	0.048	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.064	ug/l	
206-44-0	Fluoranthene	ND	0.20	0.081	ug/l	
86-73-7	Fluorene	2.1	0.20	0.20	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.061	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.40	0.25	ug/l	
91-20-3	Naphthalene	1.6	0.20	0.082	ug/l	
85-01-8	Phenanthrene	0.91	0.10	0.025	ug/l	
129-00-0	Pyrene	0.093	0.20	0.077	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	0% <sup>a</sup>		30-130%
321-60-8	2-Fluorobiphenyl	90%		30-130%
1718-51-0	Terphenyl-d14	0% <sup>a</sup>		30-130%

(a) Surrogate standard not added. EPH extract analyzed.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	AOC8-SB1-MW1	<b>Date Sampled:</b>	09/18/14
<b>Lab Sample ID:</b>	MC33726-3	<b>Date Received:</b>	09/18/14
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	MADEP EPH REV 1.1 SW846 3510C		
<b>Project:</b>	NRG Middletown, 1866 River Road, Middletown, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DE6588.D	1	09/30/14	SZ	09/23/14	OP39915	GDE450
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

## Extractable TPHC Ranges

CAS No.	Compound	Result	RL	MDL	Units	Q
	C11-C22 Aromatics (Unadj.)	285	100	100	ug/l	
	C9-C18 Aliphatics	202	100	100	ug/l	
	C19-C36 Aliphatics	209	100	100	ug/l	
	C11-C22 Aromatics	282	100	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	79%		40-140%
321-60-8	2-Fluorobiphenyl	83%		40-140%
3386-33-2	1-Chlorooctadecane	36% <sup>a</sup>		40-140%
580-13-2	2-Bromonaphthalene	84%		40-140%

(a) Outside control limits due to possible matrix interference. Confirmed by refractionation/reanalysis.

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound



## Report of Analysis

<b>Client Sample ID:</b>	AOC8-SB1-MW1 DUP	<b>Date Sampled:</b>	09/18/14
<b>Lab Sample ID:</b>	MC33726-4	<b>Date Received:</b>	09/18/14
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8270D BY SIM SW846 3510C		
<b>Project:</b>	NRG Middletown, 1866 River Road, Middletown, CT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I91987.D	1	10/03/14	WK	09/23/14	OP39916	MSI3429
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	1.2	0.20	0.14	ug/l	
208-96-8	Acenaphthylene	0.23	0.20	0.099	ug/l	
120-12-7	Anthracene	ND	0.20	0.18	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.10	0.039	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.057	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.063	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.054	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.077	ug/l	
218-01-9	Chrysene	ND	0.20	0.048	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.064	ug/l	
206-44-0	Fluoranthene	ND	0.20	0.081	ug/l	
86-73-7	Fluorene	2.0	0.20	0.20	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.061	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.40	0.25	ug/l	
91-20-3	Naphthalene	1.2	0.20	0.082	ug/l	B
85-01-8	Phenanthrene	0.88	0.10	0.025	ug/l	
129-00-0	Pyrene	0.099	0.20	0.077	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	0% <sup>a</sup>		30-130%
321-60-8	2-Fluorobiphenyl	90%		30-130%
1718-51-0	Terphenyl-d14	0% <sup>a</sup>		30-130%

(a) Surrogate standard not added. EPH extract analyzed.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	AOC8-SB1-MW1 DUP	<b>Date Sampled:</b>	09/18/14
<b>Lab Sample ID:</b>	MC33726-4	<b>Date Received:</b>	09/18/14
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	MADEP EPH REV 1.1 SW846 3510C		
<b>Project:</b>	NRG Middletown, 1866 River Road, Middletown, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DE6589.D	1	09/30/14	SZ	09/23/14	OP39915	GDE450
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

## Extractable TPHC Ranges

CAS No.	Compound	Result	RL	MDL	Units	Q
	C11-C22 Aromatics (Unadj.)	317	100	100	ug/l	
	C9-C18 Aliphatics	251	100	100	ug/l	
	C19-C36 Aliphatics	197	100	100	ug/l	
	C11-C22 Aromatics	313	100	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	69%		40-140%
321-60-8	2-Fluorobiphenyl	86%		40-140%
3386-33-2	1-Chlorooctadecane	61%		40-140%
580-13-2	2-Bromonaphthalene	86%		40-140%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	AOC9-SB2-MW2	<b>Date Sampled:</b>	09/18/14
<b>Lab Sample ID:</b>	MC33726-5	<b>Date Received:</b>	09/18/14
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8270D BY SIM SW846 3510C		
<b>Project:</b>	NRG Middletown, 1866 River Road, Middletown, CT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I91988.D	1	10/03/14	WK	09/23/14	OP39916	MSI3429
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.20	0.14	ug/l	
208-96-8	Acenaphthylene	ND	0.20	0.099	ug/l	
120-12-7	Anthracene	ND	0.20	0.18	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.10	0.039	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.057	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.063	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.054	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.077	ug/l	
218-01-9	Chrysene	ND	0.20	0.048	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.064	ug/l	
206-44-0	Fluoranthene	ND	0.20	0.081	ug/l	
86-73-7	Fluorene	ND	0.20	0.20	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.061	ug/l	
91-57-6	2-Methylnaphthalene	0.53	0.40	0.25	ug/l	
91-20-3	Naphthalene	1.0	0.20	0.082	ug/l	B
85-01-8	Phenanthrene	0.062	0.10	0.025	ug/l	J
129-00-0	Pyrene	ND	0.20	0.077	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	0% <sup>a</sup>		30-130%
321-60-8	2-Fluorobiphenyl	93%		30-130%
1718-51-0	Terphenyl-d14	0% <sup>a</sup>		30-130%

(a) Surrogate standard not added. EPH extract analyzed.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	AOC9-SB2-MW2	<b>Date Sampled:</b>	09/18/14
<b>Lab Sample ID:</b>	MC33726-5	<b>Date Received:</b>	09/18/14
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	MADEP EPH REV 1.1 SW846 3510C		
<b>Project:</b>	NRG Middletown, 1866 River Road, Middletown, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DE6590.D	1	09/30/14	SZ	09/23/14	OP39915	GDE450
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

## Extractable TPHC Ranges

CAS No.	Compound	Result	RL	MDL	Units	Q
	C11-C22 Aromatics (Unadj.)	ND	100	100	ug/l	
	C9-C18 Aliphatics	ND	100	100	ug/l	
	C19-C36 Aliphatics	ND	100	100	ug/l	
	C11-C22 Aromatics	ND	100	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	52%		40-140%
321-60-8	2-Fluorobiphenyl	86%		40-140%
3386-33-2	1-Chlorooctadecane	36% <sup>a</sup>		40-140%
580-13-2	2-Bromonaphthalene	84%		40-140%

(a) Outside control limits due to possible matrix interference. Confirmed by refractionation/reanalysis.

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	AOC9-SB2-MW2	<b>Date Sampled:</b>	09/18/14
<b>Lab Sample ID:</b>	MC33726-5	<b>Date Received:</b>	09/18/14
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Project:</b>	NRG Middletown, 1866 River Road, Middletown, CT		

## Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	3.5 B	4.0	2.4	ug/l	1	09/22/14	09/23/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Lead	1.9 U	5.0	1.9	ug/l	1	09/22/14	09/23/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Selenium	2.7 U	10	2.7	ug/l	1	09/22/14	09/23/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	0.72 U	10	0.72	ug/l	1	09/22/14	09/23/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	91.1	20	4.2	ug/l	1	09/22/14	09/23/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17541

(2) Prep QC Batch: MP23626

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
B = Indicates a result > = MDL but < RL

## Report of Analysis

<b>Client Sample ID:</b>	AOC9-SB1-MW1	<b>Date Sampled:</b>	09/18/14
<b>Lab Sample ID:</b>	MC33726-6	<b>Date Received:</b>	09/18/14
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8270D BY SIM SW846 3510C		
<b>Project:</b>	NRG Middletown, 1866 River Road, Middletown, CT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I91989.D	1	10/03/14	WK	09/23/14	OP39916	MSI3429
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

## BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.20	0.14	ug/l	
208-96-8	Acenaphthylene	ND	0.20	0.099	ug/l	
120-12-7	Anthracene	ND	0.20	0.18	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.10	0.039	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.057	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.063	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.054	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.077	ug/l	
218-01-9	Chrysene	ND	0.20	0.048	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.064	ug/l	
206-44-0	Fluoranthene	ND	0.20	0.081	ug/l	
86-73-7	Fluorene	ND	0.20	0.20	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.061	ug/l	
91-57-6	2-Methylnaphthalene	1.0	0.40	0.25	ug/l	
91-20-3	Naphthalene	1.5	0.20	0.082	ug/l	
85-01-8	Phenanthrene	0.089	0.10	0.025	ug/l	J
129-00-0	Pyrene	ND	0.20	0.077	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	0% <sup>a</sup>		30-130%
321-60-8	2-Fluorobiphenyl	95%		30-130%
1718-51-0	Terphenyl-d14	0% <sup>a</sup>		30-130%

(a) Surrogate standard not added. EPH extract analyzed.

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

## Report of Analysis

<b>Client Sample ID:</b>	AOC9-SB1-MW1	<b>Date Sampled:</b>	09/18/14
<b>Lab Sample ID:</b>	MC33726-6	<b>Date Received:</b>	09/18/14
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	MADEP EPH REV 1.1 SW846 3510C		
<b>Project:</b>	NRG Middletown, 1866 River Road, Middletown, CT		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	DE6591.D	1	09/30/14	SZ	09/23/14	OP39915	GDE450
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

## Extractable TPHC Ranges

CAS No.	Compound	Result	RL	MDL	Units	Q
	C11-C22 Aromatics (Unadj.)	ND	100	100	ug/l	
	C9-C18 Aliphatics	ND	100	100	ug/l	
	C19-C36 Aliphatics	ND	100	100	ug/l	
	C11-C22 Aromatics	ND	100	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	101%		40-140%
321-60-8	2-Fluorobiphenyl	88%		40-140%
3386-33-2	1-Chlorooctadecane	75%		40-140%
580-13-2	2-Bromonaphthalene	86%		40-140%

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

<b>Client Sample ID:</b>	AOC9-SB1-MW1	<b>Date Sampled:</b>	09/18/14
<b>Lab Sample ID:</b>	MC33726-6	<b>Date Received:</b>	09/18/14
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Project:</b>	NRG Middletown, 1866 River Road, Middletown, CT		

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	09/22/14	09/23/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17541  
(2) Prep QC Batch: MP23626

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
B = Indicates a result > = MDL but < RL

4.6  
4



## Misc. Forms

5

### Custody Documents and Other Forms

---

Includes the following where applicable:

- Chain of Custody
- RCP Form
- Sample Tracking Chronicle



## Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC33726      **Client:** CBI      **Project:** NRG MIDDLETOWN  
**Date / Time Received:** 9/18/2014 6:20:00 PM      **Delivery Method:** \_\_\_\_\_      **Airbill #s:** \_\_\_\_\_  
**Cooler Temps (Initial/Adjusted):** #1: (0.8/0.8): \_\_\_\_\_

### Cooler Security

<u>Y or N</u>	<u>Y or N</u>
1. Custody Seals Present: <input checked="" type="checkbox"/> <input type="checkbox"/>	3. COC Present: <input checked="" type="checkbox"/> <input type="checkbox"/>
2. Custody Seals Intact: <input checked="" type="checkbox"/> <input type="checkbox"/>	4. Smpl Dates/Time OK: <input checked="" type="checkbox"/> <input type="checkbox"/>

### Cooler Temperature

<u>Y or N</u>	<u>Y or N</u>
1. Temp criteria achieved: <input checked="" type="checkbox"/> <input type="checkbox"/>	
2. Thermometer ID: _____	G1;
3. Cooler media: _____	Ice (Bag)
4. No. Coolers: _____	1

### Quality Control Preservation

<u>Y or N</u>	<u>N/A</u>
1. Trip Blank present / cooler: <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Trip Blank listed on COC: <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Samples preserved properly: <input checked="" type="checkbox"/> <input type="checkbox"/>	
4. VOCs headspace free: <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>

### Sample Integrity - Documentation

<u>Y or N</u>	<u>Y or N</u>
1. Sample labels present on bottles: <input checked="" type="checkbox"/> <input type="checkbox"/>	
2. Container labeling complete: <input checked="" type="checkbox"/> <input type="checkbox"/>	
3. Sample container label / COC agree: <input checked="" type="checkbox"/> <input type="checkbox"/>	

### Sample Integrity - Condition

<u>Y or N</u>	<u>Y or N</u>
1. Sample recvd within HT: <input checked="" type="checkbox"/> <input type="checkbox"/>	
2. All containers accounted for: <input checked="" type="checkbox"/> <input type="checkbox"/>	
3. Condition of sample: _____	Intact

### Sample Integrity - Instructions

<u>Y or N</u>	<u>N/A</u>
1. Analysis requested is clear: <input checked="" type="checkbox"/> <input type="checkbox"/>	
2. Bottles received for unspecified tests: <input type="checkbox"/> <input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis: <input checked="" type="checkbox"/> <input type="checkbox"/>	
4. Compositing instructions clear: <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear: <input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

# Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Laboratory Name: Accutest New England Client: Shaw Environmental & Infrastructure

Project Location: NRG Middletown, 1866 River Road, Middletown, CT Project Number: 1009634022-02

Sampling Date(s): 9/18/2014

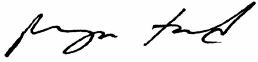
Laboratory Sample ID(s): MC33726-1, MC33726-2, MC33726-3, MC33726-4, MC33726-5, MC33726-6

Methods: MADEP EPH REV 1.1, SW846 6010C, SW846 8270D BY SIM

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1A	Where all the method specified preservation and holding time requirements met?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1B	VPH and EPH methods only: Was the VPH or EPH method conducted without significant modifications (See section 11.3 of respective methods)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/>
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
3	Were samples received at an appropriate temperature (<6° C)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
5	a) Were reporting limits specified or referenced on the chain-of-custody?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	b) Were these reporting limits met?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Note: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or #1B is "No", the data package does not meet the requirements for "Reasonable Confidence".

I, the undersigned, attest under pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized  
Signature:  Position: Lab Director

Printed Name: Reza Tand Date: 10/3/2014  
Accutest New England

## Internal Sample Tracking Chronicle

Shaw Environmental &amp; Infrastructure

Job No: MC33726

NRG Middletown, 1866 River Road, Middletown, CT

Project No: 1009634026-02000000

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC33726-1 Collected: 18-SEP-14 09:45 By: DL Received: 18-SEP-14 By: AOC5-MW1						
MC33726-1	MADEP EPH REV 1.1	30-SEP-14 02:49	SZ	23-SEP-14	FC	BMAEPHR
MC33726-1	SW846 8270D BY SIM	03-OCT-14 09:02	WK	23-SEP-14	FC	B8270SIMPAH
MC33726-2 Collected: 18-SEP-14 10:00 By: DL Received: 18-SEP-14 By: EB-1						
MC33726-2	SW846 6010C	23-SEP-14 15:01	EAL	22-SEP-14	KR	AS,PB,SE,V,ZN
MC33726-2	MADEP EPH REV 1.1	30-SEP-14 03:27	SZ	23-SEP-14	FC	BMAEPHR
MC33726-2	SW846 8270D BY SIM	03-OCT-14 09:25	WK	23-SEP-14	FC	B8270SIMPAH
MC33726-3 Collected: 18-SEP-14 10:35 By: DL Received: 18-SEP-14 By: AOC8-SB1-MW1						
MC33726-3	MADEP EPH REV 1.1	30-SEP-14 04:04	SZ	23-SEP-14	AZ	BMAEPHR
MC33726-3	SW846 8270D BY SIM	03-OCT-14 09:47	WK	23-SEP-14	FC	B8270SIMPAH
MC33726-4 Collected: 18-SEP-14 10:35 By: DL Received: 18-SEP-14 By: AOC8-SB1-MW1 DUP						
MC33726-4	MADEP EPH REV 1.1	30-SEP-14 04:41	SZ	23-SEP-14	FC	BMAEPHR
MC33726-4	SW846 8270D BY SIM	03-OCT-14 10:10	WK	23-SEP-14	FC	B8270SIMPAH
MC33726-5 Collected: 18-SEP-14 11:35 By: DL Received: 18-SEP-14 By: AOC9-SB2-MW2						
MC33726-5	SW846 6010C	23-SEP-14 15:06	EAL	22-SEP-14	KR	AS,PB,SE,V,ZN
MC33726-5	MADEP EPH REV 1.1	30-SEP-14 05:19	SZ	23-SEP-14	AZ	BMAEPHR
MC33726-5	SW846 8270D BY SIM	03-OCT-14 10:33	WK	23-SEP-14	FC	B8270SIMPAH
MC33726-6 Collected: 18-SEP-14 12:35 By: DL Received: 18-SEP-14 By: AOC9-SB1-MW1						
MC33726-6	SW846 6010C	23-SEP-14 15:11	EAL	22-SEP-14	KR	AS
MC33726-6	MADEP EPH REV 1.1	30-SEP-14 05:55	SZ	23-SEP-14	FC	BMAEPHR
MC33726-6	SW846 8270D BY SIM	03-OCT-14 10:55	WK	23-SEP-14	FC	B8270SIMPAH

## GC/MS Semi-volatiles

### QC Data Summaries

---

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- Surrogate Recovery Summaries

## Method Blank Summary

Page 1 of 1

**Job Number:** MC33726**Account:** FDG Shaw Environmental & Infrastructure**Project:** NRG Middletown, 1866 River Road, Middletown, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP39916-MB	I91982.D	1	10/03/14	WK	09/23/14	OP39916	MSI3429

**The QC reported here applies to the following samples:****Method:** SW846 8270D BY SIM

MC33726-1, MC33726-2, MC33726-3, MC33726-4, MC33726-5, MC33726-6

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.20	0.14	ug/l	
208-96-8	Acenaphthylene	ND	0.20	0.099	ug/l	
120-12-7	Anthracene	ND	0.20	0.18	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.10	0.039	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	0.057	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.063	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	0.054	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	0.077	ug/l	
218-01-9	Chrysene	ND	0.20	0.048	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.064	ug/l	
206-44-0	Fluoranthene	ND	0.20	0.081	ug/l	
86-73-7	Fluorene	ND	0.20	0.20	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.061	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.40	0.25	ug/l	
91-20-3	Naphthalene	0.14	0.20	0.082	ug/l	J
85-01-8	Phenanthrene	ND	0.10	0.025	ug/l	
129-00-0	Pyrene	ND	0.20	0.077	ug/l	

CAS No.	Surrogate Recoveries	Limits
4165-60-0	Nitrobenzene-d5	0% * a 30-130%
321-60-8	2-Fluorobiphenyl	71% 30-130%
1718-51-0	Terphenyl-d14	0% * a 30-130%

(a) Surrogate standard not added. EPH extract analyzed.

## Blank Spike Summary

Page 1 of 1

**Job Number:** MC33726**Account:** FDG Shaw Environmental & Infrastructure**Project:** NRG Middletown, 1866 River Road, Middletown, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP39916-BS	I91983.D	1	10/03/14	WK	09/23/14	OP39916	MSI3429

**The QC reported here applies to the following samples:****Method:** SW846 8270D BY SIM

MC33726-1, MC33726-2, MC33726-3, MC33726-4, MC33726-5, MC33726-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	38.8	78	40-140
208-96-8	Acenaphthylene	50	41.0	82	40-140
120-12-7	Anthracene	50	36.5	73	40-140
56-55-3	Benzo(a)anthracene	50	41.8	84	40-140
50-32-8	Benzo(a)pyrene	50	38.3	77	40-140
205-99-2	Benzo(b)fluoranthene	50	41.5	83	40-140
191-24-2	Benzo(g,h,i)perylene	50	40.4	81	40-140
207-08-9	Benzo(k)fluoranthene	50	43.3	87	40-140
218-01-9	Chrysene	50	40.4	81	40-140
53-70-3	Dibenzo(a,h)anthracene	50	42.2	84	40-140
206-44-0	Fluoranthene	50	41.4	83	40-140
86-73-7	Fluorene	50	39.1	78	40-140
193-39-5	Indeno(1,2,3-cd)pyrene	50	40.1	80	40-140
91-57-6	2-Methylnaphthalene	50	37.8	76	40-140
91-20-3	Naphthalene	50	38.2	76	40-140
85-01-8	Phenanthrene	50	40.9	82	40-140
129-00-0	Pyrene	50	40.0	80	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	0% * a	30-130%
321-60-8	2-Fluorobiphenyl	80%	30-130%
1718-51-0	Terphenyl-d14	0% * a	30-130%

(a) Surrogate standard not added. EPH extract analyzed.

\* = Outside of Control Limits.



# Semivolatile Internal Standard Area Summary

Page 1 of 1

**Job Number:** MC33726

**Account:** FDG Shaw Environmental & Infrastructure

**Project:** NRG Middletown, 1866 River Road, Middletown, CT

**Check Std:** MSI3429-CC3427

**Injection Date:** 10/03/14

**Lab File ID:** I91981.D

**Injection Time:** 07:54

**Instrument ID:** GCMSI

**Method:** SW846 8270D BY SIM

	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
Check Std	340665	3.25	790854	4.28	457186	5.79	813999	7.06	632199	9.81	1317333	11.20
Upper Limit <sup>a</sup>	681330	3.75	1581708	4.78	914372	6.29	1627998	7.56	1264398	10.31	2634666	11.70
Lower Limit <sup>b</sup>	170333	2.75	395427	3.78	228593	5.29	407000	6.56	316100	9.31	658667	10.70

Lab Sample ID	IS 1		IS 2		IS 3		IS 4		IS 5		IS 6	
	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT	AREA	RT
OP39916-MB	424214	3.25	996617	4.28	590857	5.79	1030336	7.05	826926	9.80	1705979	11.20
OP39916-BS	372475	3.25	863612	4.28	507640	5.79	861549	7.05	692306	9.81	1427236	11.19
MC33726-1	373869	3.25	871872	4.28	506941	5.79	885336	7.05	697010	9.80	1458378	11.19
MC33726-2	381144	3.25	889236	4.28	521942	5.79	900933	7.05	701218	9.80	1471573	11.19
MC33726-3	338987	3.25	788146	4.28	459452	5.79	788916	7.05	620710	9.80	1288764	11.19
MC33726-4	374610	3.25	876512	4.28	509866	5.79	888038	7.05	691458	9.80	1446110	11.19
MC33726-5	341118	3.25	805280	4.28	469687	5.79	813342	7.05	631585	9.80	1311878	11.19
MC33726-6	352015	3.25	822398	4.28	485402	5.79	835066	7.05	653269	9.80	1358670	11.19

**IS 1** = 1,4-Dichlorobenzene-d4

**IS 2** = Naphthalene-d8

**IS 3** = Acenaphthene-D10

**IS 4** = Phenanthrene-d10

**IS 5** = Chrysene-d12

**IS 6** = Perylene-d12

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Surrogate Recovery Summary

Job Number: MC33726  
Account: FDG Shaw Environmental & Infrastructure  
Project: NRG Middletown, 1866 River Road, Middletown, CT

Method: SW846 8270D BY SIM	Matrix: AQ
----------------------------	------------

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3
MC33726-1	I91984.D	0* a	84	0* a
MC33726-2	I91985.D	0* a	83	0* a
MC33726-3	I91986.D	0* a	90	0* a
MC33726-4	I91987.D	0* a	90	0* a
MC33726-5	I91988.D	0* a	93	0* a
MC33726-6	I91989.D	0* a	95	0* a
OP39916-BS	I91983.D	0* a	80	0* a
OP39916-MB	I91982.D	0* a	71	0* a

Surrogate Compounds	Recovery Limits
S1 = Nitrobenzene-d5	30-130%
S2 = 2-Fluorobiphenyl	30-130%
S3 = Terphenyl-d14	30-130%

(a) Surrogate standard not added. EPH extract analyzed.

## GC Semi-volatiles

### QC Data Summaries

---

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

## Method Blank Summary

Page 1 of 1

**Job Number:** MC33726

**Account:** FDG Shaw Environmental & Infrastructure

**Project:** NRG Middletown, 1866 River Road, Middletown, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP39915-MB	DE6583.D	1	09/30/14	SZ	09/23/14	OP39915	GDE450

The QC reported here applies to the following samples:

Method: MADEP EPH REV 1.1

MC33726-1, MC33726-2, MC33726-3, MC33726-4, MC33726-5, MC33726-6

CAS No.	Compound	Result	RL	MDL	Units	Q
	C11-C22 Aromatics (Unadj.)	ND	100	100	ug/l	
	C9-C18 Aliphatics	ND	100	100	ug/l	
	C19-C36 Aliphatics	ND	100	100	ug/l	
	C11-C22 Aromatics	ND	100	100	ug/l	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	92% 40-140%
321-60-8	2-Fluorobiphenyl	83% 40-140%
3386-33-2	1-Chlorooctadecane	62% 40-140%
580-13-2	2-Bromonaphthalene	79% 40-140%

# Blank Spike/Blank Spike Duplicate Summary

Page 1 of 1

**Job Number:** MC33726

**Account:** FDG Shaw Environmental & Infrastructure

**Project:** NRG Middletown, 1866 River Road, Middletown, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP39915-BS	DE6584.D	1	09/30/14	SZ	09/23/14	OP39915	GDE450
OP39915-BSD	DE6585.D	1	09/30/14	SZ	09/23/14	OP39915	GDE450

The QC reported here applies to the following samples:

Method: MADEP EPH REV 1.1

MC33726-1, MC33726-2, MC33726-3, MC33726-4, MC33726-5, MC33726-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
	C11-C22 Aromatics (Unadj.)	800	623	78	670	84	7	40-140/25
	C9-C18 Aliphatics	300	166	55	196	65	17	40-140/25
	C19-C36 Aliphatics	400	266	67	297	74	11	40-140/25

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	83%	90%	40-140%
321-60-8	2-Fluorobiphenyl	78%	86%	40-140%
3386-33-2	1-Chlorooctadecane	42%	58%	40-140%
580-13-2	2-Bromonaphthalene	76%	81%	40-140%

Sample	Compound	Col #1	Col #2	Breakthrough	Limit
OP39915-BS	2-Methylnaphthalene	28.7	0.082	0.3%	5.0
OP39915-BS	Naphthalene	27.2	0.35	1.3%	5.0
OP39915-BSD	2-Methylnaphthalene	31.4	0.067	0.2%	5.0
OP39915-BSD	Naphthalene	30.9	0.49	1.6%	5.0

\* = Outside of Control Limits.

# Semivolatile Surrogate Recovery Summary

Page 1 of 1

**Job Number:** MC33726

**Account:** FDG Shaw Environmental & Infrastructure

**Project:** NRG Middletown, 1866 River Road, Middletown, CT

**Method:** MADEP EPH REV 1.1

**Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 <sup>a</sup>	S2 <sup>a</sup>	S3 <sup>b</sup>	S4 <sup>a</sup>
MC33726-1	DE6586.D	89	86	53	87
MC33726-2	DE6587.D	91	88	46	86
MC33726-3	DE6588.D	79	83	36* <sup>c</sup>	84
MC33726-4	DE6589.D	69	86	61	86
MC33726-5	DE6590.D	52	86	36* <sup>c</sup>	84
MC33726-6	DE6591.D	101	88	75	86
OP39915-BS	DE6584.D	83	78	42	76
OP39915-BSD	DE6585.D	90	86	58	81
OP39915-MB	DE6583.D	92	83	62	79

## Surrogate Compounds

## Recovery Limits

<b>S1</b> = o-Terphenyl	40-140%
<b>S2</b> = 2-Fluorobiphenyl	40-140%
<b>S3</b> = 1-Chlorooctadecane	40-140%
<b>S4</b> = 2-Bromonaphthalene	40-140%

(a) Recovery from GC signal #1

(b) Recovery from GC signal #2

(c) Outside control limits due to possible matrix interference. Confirmed by refractionation/reanalysis.

## Metals Analysis

### QC Data Summaries

---

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: MC33726  
Account: FDG - Shaw Environmental & Infrastructure  
Project: NRG Middletown, 1866 River Road, Middletown, CT

QC Batch ID: MP23626  
Matrix Type: AQUEOUS

Methods: SW846 6010C  
Units: ug/l

Prep Date: 09/22/14

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	7.5	13		
Antimony	6.0	.94	2.4		
Arsenic	4.0	.64	2.4	1.1	<4.0
Barium	50	.17	2		
Beryllium	4.0	.04	.18		
Bismuth	50	1	3		
Boron	100	1.1	3.4		
Cadmium	4.0	.16	.24		
Calcium	5000	3.8	21		
Chromium	10	.43	.73		
Cobalt	50	.19	.6		
Copper	25	.44	3.6		
Gold	50	.67	1.4		
Iron	100	1.9	7.4		
Lead	5.0	.83	1.9	0.80	<5.0
Lithium	500	1.5	45		
Magnesium	5000	27	74		
Manganese	15	.04	.35		
Molybdenum	100	1.6	.81		
Nickel	40	.23	.57		
Palladium	50	.98	6.5		
Platinum	50	2.3	5.1		
Potassium	5000	28	69		
Selenium	10	1.8	2.7	-0.40	<10
Silicon	100	5.9	21		
Silver	5.0	.5	.96		
Sodium	5000	6.5	22		
Sulfur	50	2	9.7		
Strontium	10	.079	.18		
Thallium	5.0	1.3	1.5		
Tin	100	.74	3.3		
Titanium	50	.25	.89		
Tungsten	100	2.6	5.2		



BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: MC33726  
Account: FDG - Shaw Environmental & Infrastructure  
Project: NRG Middletown, 1866 River Road, Middletown, CT

QC Batch ID: MP23626  
Matrix Type: AQUEOUS

Methods: SW846 6010C  
Units: ug/l

Prep Date: 09/22/14

Metal	RL	IDL	MDL	MB raw	final
-------	----	-----	-----	-----------	-------

Vanadium 10 .38 .72 0.0 <10

Zinc 20 .24 4.2 1.1 <20

Zirconium 50 .19 1.3

Associated samples MP23626: MC33726-2, MC33726-5, MC33726-6

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits  
(anr) Analyte not requested

8.1.1

8

## SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC33726

Account: FDG - Shaw Environmental &amp; Infrastructure

Project: NRG Middletown, 1866 River Road, Middletown, CT

QC Batch ID: MP23626

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

09/22/14

09/22/14

Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit
Aluminum	anr								
Antimony									
Arsenic	522	500	104.4	80-120	510	500	102.0	2.3	20
Barium	anr								
Beryllium	anr								
Bismuth									
Boron									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper	anr								
Gold									
Iron									
Lead	1040	1000	104.0	80-120	1020	1000	102.0	1.9	20
Lithium									
Magnesium									
Manganese									
Molybdenum									
Nickel	anr								
Palladium									
Platinum									
Potassium									
Selenium	530	500	106.0	80-120	521	500	104.2	1.7	20
Silicon									
Silver	anr								
Sodium									
Sulfur									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC33726  
 Account: FDG - Shaw Environmental & Infrastructure  
 Project: NRG Middletown, 1866 River Road, Middletown, CT

QC Batch ID: MP23626  
 Matrix Type: AQUEOUS

Methods: SW846 6010C  
 Units: ug/l

Prep Date: 09/22/14 09/22/14

Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit
-------	---------------	-------------------	-------	--------------	---------------	-------------------	-------	------------	-------------

Vanadium	510	500	102.0	80-120	503	500	100.6	1.4	20
Zinc	524	500	104.8	80-120	515	500	103.0	1.7	20

Zirconium

Associated samples MP23626: MC33726-2, MC33726-5, MC33726-6

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (anr) Analyte not requested

8.1.2  
8

# SERIAL DILUTION RESULTS SUMMARY

Login Number: MC33726  
 Account: FDG - Shaw Environmental & Infrastructure  
 Project: NRG Middletown, 1866 River Road, Middletown, CT

QC Batch ID: MP23626  
 Matrix Type: AQUEOUS

Methods: SW846 6010C  
 Units: ug/l

Prep Date: 09/22/14

Metal		MC33727-2 Original SDL 2:10 %DIF		QC Limits
Aluminum	anr			
Antimony				
Arsenic	0.00	0.00	NC	0-10
Barium	anr			
Beryllium	anr			
Bismuth				
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper	anr			
Gold				
Iron				
Lead	0.00	0.00	NC	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Palladium				
Platinum				
Potassium				
Selenium	6.50	0.00	100.0(a)	0-10
Silicon				
Silver	anr			
Sodium				
Sulfur				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				

# SERIAL DILUTION RESULTS SUMMARY

Login Number: MC33726  
 Account: FDG - Shaw Environmental & Infrastructure  
 Project: NRG Middletown, 1866 River Road, Middletown, CT

QC Batch ID: MP23626  
 Matrix Type: AQUEOUS

Methods: SW846 6010C  
 Units: ug/l

Prep Date: 09/22/14

Metal	MC33727-2		QC	
	Original	SDL 2:10	%DIF	Limits

Vanadium 2.20 0.00 100.0(a) 0-10

Zinc 39.1 46.2 18.2\*(b) 0-10

Zirconium

Associated samples MP23626: MC33726-2, MC33726-5, MC33726-6

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

(b) Serial Dilution RPD acceptable due to low duplicate and sample concentrations.

8.1.3

8

## Data Usability Worksheet

<b>Project Name :</b>	NRG Middletown	<b>Job Number :</b>	1009634026
<b>Prepared By:</b>	Jennifer Gailey	<b>Date :</b>	10/6/2014
<b>Validated By:</b>	Kim Napier	<b>Date :</b>	10/9/2014
<b>Matrix:</b>	Groundwater		
<b>Analyte Group :</b>	Metals	<b>Analytical Method :</b>	EPA 6010C
<b>Completed Reasonable Confidence Protocol Certification Form Included:</b> Yes		<b>Laboratory ID No. :</b>	MC33784
<b>Chain of Custody Included in Data Package ?</b> Yes		<b>Is it Complete ?</b> Yes	

Sample Collection Date	Analysis	Allowable Holding Time for extraction	Allowable Holding Time for analysis	Analysis Date
9/18/2014, 9/19/2014	6010C		180 Days	9/24/14

**Sample temperature within QC limits:** Yes, < 6.0° C

### Surrogate Recovery

Are all % recoveries within the allowable range ? Yes

If No, List sample ID where range was exceeded: NA

### MS/MSD

Are all MS/MSD sample recoveries within the QC limits ? NA

If No, list sample ID, date and compound where limit was exceeded: NA

### Laboratory Control Samples

Are all laboratory control sample recoveries within the QC limits ? Yes

If no, list sample ID where range was exceeded: NA

**Equipment Field Blank ID :** None  
**Trip Blank ID :** None

**Method Blank:** 6010 C 9/23/2014

**Were any compounds identified in the method blank, field blank or trip blank above detection limits ?** No

If so, list Sample ID/Compound/Concentration/Units: NA

### Notes:

RPD(s) for Serial Dilution for Arsenic, Vanadium are outside control limits for sample MP23637-SD1. Percent acceptable due to low initial sample concentration (< 50 times IDL).  
 No qualification necessary

Quality results reported less than the RL, flagged "B" by the lab as estimated "J" unless "U" qualified due to blank contamination.

**Reviewed By:**

## Report of Analysis

Client Sample ID:	TW-18	Date Sampled:	09/18/14
Lab Sample ID:	MC33784-1	Date Received:	09/22/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	NRG Middletown, 1866 River Road, Middletown, CT		

## Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Lead	1.9 U	5.0	1.9	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Selenium	2.7 U	10	2.7	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	16.1	10	0.72	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	6.5 B J	20	4.2	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17546

(2) Prep QC Batch: MP23637

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
B = Indicates a result > = MDL but < RL

## Report of Analysis

Page 1 of 1

Client Sample ID:	TW-18 DUP		Date Sampled:	09/18/14
Lab Sample ID:	MC33784-2		Date Received:	09/22/14
Matrix:	AQ - Ground Water		Percent Solids:	n/a
Project:	NRG Middletown, 1866 River Road, Middletown, CT			

## Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Lead	1.9 U	5.0	1.9	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Selenium	2.7 U	10	2.7	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	16.0	10	0.72	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	12.9 B J	20	4.2	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17546

(2) Prep QC Batch: MP23637

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
B = Indicates a result >= MDL but < RL



## Report of Analysis

Client Sample ID:	TW-17D		Date Sampled:	09/18/14
Lab Sample ID:	MC33784-3		Date Received:	09/22/14
Matrix:	AQ - Ground Water		Percent Solids:	n/a
Project:	NRG Middletown, 1866 River Road, Middletown, CT			

## Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Lead	1.9 U	5.0	1.9	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Selenium	54.3	10	2.7	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	381	10	0.72	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	7.2 B J	20	4.2	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17546

(2) Prep QC Batch: MP23637

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
B = Indicates a result > = MDL but < RL

## Report of Analysis

Client Sample ID:	AOC1-MW1R	Date Sampled:	09/19/14
Lab Sample ID:	MC33784-4	Date Received:	09/22/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	NRG Middletown, 1866 River Road, Middletown, CT		

## Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Lead	1.9 U	5.0	1.9	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Selenium	52.6	10	2.7	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	6.1 B J	10	0.72	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	6.5 B J	20	4.2	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17546

(2) Prep QC Batch: MP23637

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
B = Indicates a result > = MDL but < RL

## Report of Analysis

Client Sample ID:	TW-21D		Date Sampled:	09/18/14
Lab Sample ID:	MC33784-5		Date Received:	09/22/14
Matrix:	AQ - Ground Water		Percent Solids:	n/a
Project:	NRG Middletown, 1866 River Road, Middletown, CT			

## Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Lead	1.9 U	5.0	1.9	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Selenium	35.5	10	2.7	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	8.3 B J	10	0.72	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	6.9 B J	20	4.2	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17546

(2) Prep QC Batch: MP23637

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
B = Indicates a result > = MDL but < RL

## Report of Analysis

Client Sample ID:	TW-14		Date Sampled:	09/19/14
Lab Sample ID:	MC33784-6		Date Received:	09/22/14
Matrix:	AQ - Ground Water		Percent Solids:	n/a
Project:	NRG Middletown, 1866 River Road, Middletown, CT			

## Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Lead	1.9 U	5.0	1.9	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Selenium	2.7 U	10	2.7	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	6.6 B J	10	0.72	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	9.7 B J	20	4.2	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17546

(2) Prep QC Batch: MP23637

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
B = Indicates a result > = MDL but < RL

## Report of Analysis

Client Sample ID: TW-10	Date Sampled: 09/19/14
Lab Sample ID: MC33784-7	Date Received: 09/22/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: NRG Middletown, 1866 River Road, Middletown, CT	

## Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Lead	1.9 U	5.0	1.9	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Selenium	2.8 B J	10	2.7	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	2.4 B J	10	0.72	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	8.7 B J	20	4.2	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17546

(2) Prep QC Batch: MP23637

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
B = Indicates a result > = MDL but < RL

## Report of Analysis

Page 1 of 1

Client Sample ID: AOC1-MW2	Date Sampled: 09/19/14
Lab Sample ID: MC33784-8	Date Received: 09/22/14
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: NRG Middletown, 1866 River Road, Middletown, CT	

## Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Lead	1.9 U	5.0	1.9	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Selenium	2.7 U	10	2.7	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	2.1 B J	10	0.72	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	7.0 B J	20	4.2	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17546

(2) Prep QC Batch: MP23637

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
B = Indicates a result > = MDL but < RL

## Report of Analysis

Page 1 of 1

Client Sample ID:	AOC2-SB1-MWI	Date Sampled:	09/19/14
Lab Sample ID:	MC33784-9	Date Received:	09/22/14
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	NRG Middletown, 1866 River Road, Middletown, CT		

## Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Lead	1.9 U	5.0	1.9	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Selenium	2.7 U	10	2.7	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	0.90 B	10	0.72	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	8.3 B	20	4.2	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17546

(2) Prep QC Batch: MP23637

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
B = Indicates a result > = MDL but < RL



10/01/14

## Technical Report for

### Shaw Environmental & Infrastructure

NRG Middletown, 1866 River Road, Middletown, CT

1009634026-02

Accutest Job Number: MC33784

Sampling Dates: 09/18/14 - 09/19/14

### Report to:

CB&I  
150 Royall Street  
Cantonton, MA 02021  
andrew.walker@shawgrp.com; catherine.joe@cbi.com  
  
ATTN: Andrew Walker

Total number of pages in report: **29**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Reza Fand  
Lab Director

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.  
Test results relate only to samples analyzed.



# Table of Contents

-1-

<b>Section 1: Sample Summary .....</b>	<b>3</b>
<b>Section 2: Case Narrative/Conformance Summary .....</b>	<b>4</b>
<b>Section 3: Summary of Hits .....</b>	<b>5</b>
<b>Section 4: Sample Results .....</b>	<b>7</b>
<b>4.1:</b> MC33784-1: TW-18 .....	8
<b>4.2:</b> MC33784-2: TW-18 DUP .....	9
<b>4.3:</b> MC33784-3: TW-17D .....	10
<b>4.4:</b> MC33784-4: AOC1-MW1R .....	11
<b>4.5:</b> MC33784-5: TW-21D .....	12
<b>4.6:</b> MC33784-6: TW-14 .....	13
<b>4.7:</b> MC33784-7: TW-10 .....	14
<b>4.8:</b> MC33784-8: AOC1-MW2 .....	15
<b>4.9:</b> MC33784-9: AOC2-SB1-MW1 .....	16
<b>Section 5: Misc. Forms .....</b>	<b>17</b>
<b>5.1:</b> Chain of Custody .....	18
<b>5.2:</b> RCP Form .....	20
<b>5.3:</b> Sample Tracking Chronicle .....	21
<b>Section 6: Metals Analysis - QC Data Summaries .....</b>	<b>23</b>
<b>6.1:</b> Prep QC MP23637: As,Pb,Se,V,Zn .....	24

## Sample Summary

Shaw Environmental & Infrastructure

Job No: MC33784

NRG Middletown, 1866 River Road, Middletown, CT

Project No: 1009634026-02

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
MC33784-1	09/18/14	13:40 DL	09/22/14	AQ	Ground Water	TW-18
MC33784-2	09/18/14	13:40 DL	09/22/14	AQ	Ground Water	TW-18 DUP
MC33784-3	09/18/14	14:45 DL	09/22/14	AQ	Ground Water	TW-17D
MC33784-4	09/19/14	08:40 DL	09/22/14	AQ	Ground Water	AOC1-MW1R
MC33784-5	09/18/14	15:50 DL	09/22/14	AQ	Ground Water	TW-21D
MC33784-6	09/19/14	09:50 DL	09/22/14	AQ	Ground Water	TW-14
MC33784-7	09/19/14	10:45 DL	09/22/14	AQ	Ground Water	TW-10
MC33784-8	09/19/14	12:00 DL	09/22/14	AQ	Ground Water	AOC1-MW2
MC33784-9	09/19/14	13:50 DL	09/22/14	AQ	Ground Water	AOC2-SB1-MW1



## SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** Shaw Environmental & Infrastructure

**Job No** MC33784

**Site:** NRG Middletown, 1866 River Road, Middletown, CT

**Report Date** 10/1/2014 12:09:18 PM

9 Sample(s) were collected on between 09/18/2014 and 09/19/2014 and were received at Accutest on 09/22/2014 properly preserved, at 1.8 Deg. C and intact. These Samples received an Accutest job number of MC33784. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

### Metals By Method SW846 6010C

**Matrix:** AQ

**Batch ID:** MP23637

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC33760-2SDL were used as the QC samples for metals.
- Only selected metals requested.
- RPD(s) for Serial Dilution for Arsenic, Vanadium are outside control limits for sample MP23637-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report (MC33784).

## Summary of Hits

**Job Number:** MC33784

**Account:** Shaw Environmental & Infrastructure

**Project:** NRG Middletown, 1866 River Road, Middletown, CT

**Collected:** 09/18/14 thru 09/19/14

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
<b>MC33784-1</b>	<b>TW-18</b>					
Vanadium		16.1	10	0.72	ug/l	SW846 6010C
Zinc		6.5 B	20	4.2	ug/l	SW846 6010C
<b>MC33784-2</b>	<b>TW-18 DUP</b>					
Vanadium		16.0	10	0.72	ug/l	SW846 6010C
Zinc		12.9 B	20	4.2	ug/l	SW846 6010C
<b>MC33784-3</b>	<b>TW-17D</b>					
Selenium		54.3	10	2.7	ug/l	SW846 6010C
Vanadium		381	10	0.72	ug/l	SW846 6010C
Zinc		7.2 B	20	4.2	ug/l	SW846 6010C
<b>MC33784-4</b>	<b>AOC1-MW1R</b>					
Selenium		52.6	10	2.7	ug/l	SW846 6010C
Vanadium		6.1 B	10	0.72	ug/l	SW846 6010C
Zinc		6.5 B	20	4.2	ug/l	SW846 6010C
<b>MC33784-5</b>	<b>TW-21D</b>					
Selenium		35.5	10	2.7	ug/l	SW846 6010C
Vanadium		8.3 B	10	0.72	ug/l	SW846 6010C
Zinc		6.9 B	20	4.2	ug/l	SW846 6010C
<b>MC33784-6</b>	<b>TW-14</b>					
Vanadium		6.6 B	10	0.72	ug/l	SW846 6010C
Zinc		9.7 B	20	4.2	ug/l	SW846 6010C
<b>MC33784-7</b>	<b>TW-10</b>					
Selenium		2.8 B	10	2.7	ug/l	SW846 6010C
Vanadium		2.4 B	10	0.72	ug/l	SW846 6010C
Zinc		8.7 B	20	4.2	ug/l	SW846 6010C
<b>MC33784-8</b>	<b>AOC1-MW2</b>					
Vanadium		2.1 B	10	0.72	ug/l	SW846 6010C
Zinc		7.0 B	20	4.2	ug/l	SW846 6010C

Summary of Hits

**Job Number:** MC33784  
**Account:** Shaw Environmental & Infrastructure  
**Project:** NRG Middletown, 1866 River Road, Middletown, CT  
**Collected:** 09/18/14 thru 09/19/14



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Analyte						
MC33784-9	AOC2-SB1-MW1					
Vanadium		0.90 B	10	0.72	ug/l	SW846 6010C
Zinc		8.3 B	20	4.2	ug/l	SW846 6010C

Sample Results

Report of Analysis

## Report of Analysis

<b>Client Sample ID:</b> TW-18	<b>Date Sampled:</b> 09/18/14
<b>Lab Sample ID:</b> MC33784-1	<b>Date Received:</b> 09/22/14
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Project:</b> NRG Middletown, 1866 River Road, Middletown, CT	

## Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Lead	1.9 U	5.0	1.9	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Selenium	2.7 U	10	2.7	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	16.1	10	0.72	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	6.5 B	20	4.2	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17546

(2) Prep QC Batch: MP23637

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
B = Indicates a result > = MDL but < RL

## Report of Analysis

<b>Client Sample ID:</b> TW-18 DUP	<b>Date Sampled:</b> 09/18/14
<b>Lab Sample ID:</b> MC33784-2	<b>Date Received:</b> 09/22/14
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Project:</b> NRG Middletown, 1866 River Road, Middletown, CT	

## Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Lead	1.9 U	5.0	1.9	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Selenium	2.7 U	10	2.7	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	16.0	10	0.72	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	12.9 B	20	4.2	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17546

(2) Prep QC Batch: MP23637

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
B = Indicates a result > = MDL but < RL



## Report of Analysis

<b>Client Sample ID:</b> TW-17D	<b>Date Sampled:</b> 09/18/14
<b>Lab Sample ID:</b> MC33784-3	<b>Date Received:</b> 09/22/14
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Project:</b> NRG Middletown, 1866 River Road, Middletown, CT	

## Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Lead	1.9 U	5.0	1.9	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Selenium	54.3	10	2.7	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	381	10	0.72	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	7.2 B	20	4.2	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17546

(2) Prep QC Batch: MP23637

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
B = Indicates a result > = MDL but < RL

## Report of Analysis

<b>Client Sample ID:</b> AOC1-MW1R	<b>Date Sampled:</b> 09/19/14
<b>Lab Sample ID:</b> MC33784-4	<b>Date Received:</b> 09/22/14
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Project:</b> NRG Middletown, 1866 River Road, Middletown, CT	

## Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Lead	1.9 U	5.0	1.9	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Selenium	52.6	10	2.7	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	6.1 B	10	0.72	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	6.5 B	20	4.2	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17546

(2) Prep QC Batch: MP23637

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
B = Indicates a result > = MDL but < RL

## Report of Analysis

<b>Client Sample ID:</b> TW-21D	<b>Date Sampled:</b> 09/18/14
<b>Lab Sample ID:</b> MC33784-5	<b>Date Received:</b> 09/22/14
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Project:</b> NRG Middletown, 1866 River Road, Middletown, CT	

## Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Lead	1.9 U	5.0	1.9	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Selenium	35.5	10	2.7	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	8.3 B	10	0.72	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	6.9 B	20	4.2	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17546

(2) Prep QC Batch: MP23637

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
B = Indicates a result > = MDL but < RL

## Report of Analysis

<b>Client Sample ID:</b> TW-14	<b>Date Sampled:</b> 09/19/14
<b>Lab Sample ID:</b> MC33784-6	<b>Date Received:</b> 09/22/14
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Project:</b> NRG Middletown, 1866 River Road, Middletown, CT	

## Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Lead	1.9 U	5.0	1.9	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Selenium	2.7 U	10	2.7	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	6.6 B	10	0.72	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	9.7 B	20	4.2	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17546

(2) Prep QC Batch: MP23637

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
B = Indicates a result > = MDL but < RL

## Report of Analysis

<b>Client Sample ID:</b> TW-10	<b>Date Sampled:</b> 09/19/14
<b>Lab Sample ID:</b> MC33784-7	<b>Date Received:</b> 09/22/14
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Project:</b> NRG Middletown, 1866 River Road, Middletown, CT	

## Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Lead	1.9 U	5.0	1.9	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Selenium	2.8 B	10	2.7	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	2.4 B	10	0.72	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	8.7 B	20	4.2	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17546

(2) Prep QC Batch: MP23637

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
B = Indicates a result > = MDL but < RL

## Report of Analysis

<b>Client Sample ID:</b> AOC1-MW2	<b>Date Sampled:</b> 09/19/14
<b>Lab Sample ID:</b> MC33784-8	<b>Date Received:</b> 09/22/14
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Project:</b> NRG Middletown, 1866 River Road, Middletown, CT	

## Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Lead	1.9 U	5.0	1.9	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Selenium	2.7 U	10	2.7	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	2.1 B	10	0.72	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	7.0 B	20	4.2	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17546

(2) Prep QC Batch: MP23637

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
B = Indicates a result > = MDL but < RL

## Report of Analysis

<b>Client Sample ID:</b> AOC2-SB1-MW1	<b>Date Sampled:</b> 09/19/14
<b>Lab Sample ID:</b> MC33784-9	<b>Date Received:</b> 09/22/14
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Project:</b> NRG Middletown, 1866 River Road, Middletown, CT	

## Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Lead	1.9 U	5.0	1.9	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Selenium	2.7 U	10	2.7	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	0.90 B	10	0.72	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	8.3 B	20	4.2	ug/l	1	09/23/14	09/24/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17546

(2) Prep QC Batch: MP23637

RL = Reporting Limit  
MDL = Method Detection Limit

U = Indicates a result < MDL  
B = Indicates a result > = MDL but < RL

## Misc. Forms

5

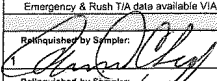
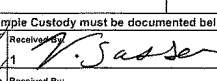
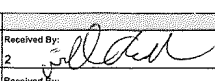
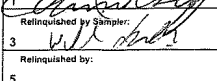
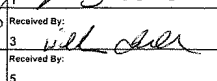
### Custody Documents and Other Forms

---

Includes the following where applicable:

- Chain of Custody
- RCP Form
- Sample Tracking Chronicle



Client / Reporting Information		Project Information		Requested Analysis (see TEST CODE sheet)															Matrix Codes
Company Name <b>CB&amp;I Environmental</b>		Project Name <b>NRG Middletown</b>		<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Total Metals (As, Fe, Se, Zn)</div> <div>MA EPH (MAH by EPH 8/27/05) including 2-methylanthracene</div> </div>															DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB - Field Blank EB - Equipment Blank RB - Rinse Blank TB - Trip Blank
Street Address <b>150 Royall Street</b>		Street <b>River Road</b>																	
City State Zip <b>Canton, MA 02021</b>		City <b>Middletown, CT</b>																	
Project Contact <b>Raymond Cadorette</b>		Project# <b>1009634026-02000000</b>																	
Phone # <b>617-589-6102</b>		Client PO# <b>PO #904092</b>																	
Sampler(s) Name(s) <b>Daniel Leahy 617-212-6102</b>		Project Manager <b>Andrew Walker 617-589-6143</b>																	
Accutest Sample #	Field ID / Point of Collection	MECHIDI Vial #	Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	None	Dil Water	MEDH	ENCODE	Biobable	LAB USE ONLY		
-1	TW-18		9/18/14	1340	DL	GW	1												
-2	TW-18 DUP		9/18/14	1340			1												
-3	TW-17D		9/18/14	1445			1												
-4	AOC1-MWIR		9/18/14	0840			1												
-5	TW-21D		9/18/14	1550			1												
-6	TW-14		9/19/14	0950			1												
-7	TW-10		9/19/14	1045			1												
-8	AOC1-MW2		9/19/14	1200			1												
-9	AOC2-SBI-MW1		9/19/14	1350			1										loc 6A		
<div style="display: flex; justify-content: space-between;"> <div> <b>Turnaround Time (Business days)</b>  <input checked="" type="checkbox"/> Std. 10 Business Days  <input type="checkbox"/> Std. 5 Business Days (By Contract only)  <input type="checkbox"/> 5 Day RUSH  <input type="checkbox"/> 3 Day EMERGENCY  <input type="checkbox"/> 2 Day EMERGENCY  <input type="checkbox"/> 1 Day EMERGENCY  <small>Emergency &amp; Rush TIA data available VIA Lablink</small> </div> <div> <b>Approved By (Accutest PM): / Date:</b>            _____            _____            _____            _____         </div> <div> <b>Data Deliverable Information</b>  <input type="checkbox"/> Commercial "A" (Level 1)  <input type="checkbox"/> Commercial "B" (Level 2)  <input type="checkbox"/> FULLT1 (Level 3+4)  <input checked="" type="checkbox"/> CT RCP  <input type="checkbox"/> MA MCP  <small>Commercial "A" = Results Only Commercial "B" = Results + QC Summary</small> </div> <div> <input type="checkbox"/> NYASP Category A  <input type="checkbox"/> NYASP Category B  <input type="checkbox"/> State Forms  <input checked="" type="checkbox"/> EDD Format <b>GISKey</b>  <input type="checkbox"/> Other _____         </div> <div> <b>Comments / Special Instructions</b>            QC/QC: CTDEEP RCP            Detection limits must meet CT SWPC standards; report metals to MDL.            Refer to site specific QAPP.            Email GISKey formatted EDD &amp; PDF to: Catherine.Joe@CBI.com.         </div> </div>																			
<b>Sample Custody must be documented below each time samples change possession, including courier delivery.</b>																			
Relinquished by Sampler: 		Date Time: 9/20/14 1200		Received By: 		Date Time: 9/20/14 1350		Received By: 											
Relinquished by Sampler: 		Date Time: 9/22/14 1330		Received By: 		Date Time:		Received By:											
Relinquished by:		Date Time:		Received By:		Custody Seal #		<input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Preserved where applicable		<input type="checkbox"/> On Ice <input checked="" type="checkbox"/> Cooler Temp. 1.8°C							

**MC33784: Chain of Custody**
**Page 1 of 2**

## Accutest Laboratories Sample Receipt Summary

**Accutest Job Number:** MC33784      **Client:** CB&I      **Project:** NRG  
**Date / Time Received:** 9/22/2014 5:25:00 PM      **Delivery Method:** \_\_\_\_\_      **Airbill #s:** \_\_\_\_\_  
**Cooler Temps (Initial/Adjusted):** #1: (1.8/1.8): \_\_\_\_\_

**Cooler Security**

	<u>Y</u>	<u>or</u>	<u>N</u>		<u>Y</u>	<u>or</u>	<u>N</u>
1. Custody Seals Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>

**Cooler Temperature**

	<u>Y</u>	<u>or</u>	<u>N</u>
1. Temp criteria achieved:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Thermometer ID:	G1;		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

**Quality Control Preservation**

	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Trip Blank listed on COC:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Sample Integrity - Documentation**

	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>		<input type="checkbox"/>

**Sample Integrity - Condition**

	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:	Intact		

**Sample Integrity - Instructions**

	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

# **Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form**

**Laboratory Name:** Accutest New England **Client:** Shaw Environmental & Infrastructure

**Project Location:** NRG Middletown, 1866 River Road, Middletown, CT **Project Number:** 1009634022-02

**Sampling Date(s):** 9/18/2014

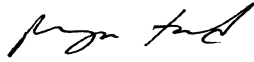
**Laboratory Sample ID(s):** MC33784-1, MC33784-2, MC33784-3, MC33784-4, MC33784-5, MC33784-6, MC33784-7, MC33784-8, MC33784-9

**Methods:** SW846 6010C

1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1A	Where all the method specified preservation and holding time requirements met?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1B	VPH and EPH methods only: Was the VPH or EPH method conducted without significant modifications (See section 11.3 of respective methods)	Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/>
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
3	Were samples received at an appropriate temperature (<6° C)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
5	a) Were reporting limits specified or referenced on the chain-of-custody?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	b) Were these reporting limits met?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

**Note:** For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or #1B is "No", the data package does not meet the requirements for "Reasonable Confidence".

I, the undersigned, attest under pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized  
Signature:  Position: Lab Director

Printed Name: Reza Tand Date: 10/1/2014  
Accutest New England

## Internal Sample Tracking Chronicle

Shaw Environmental &amp; Infrastructure

Job No: MC33784

NRG Middletown, 1866 River Road, Middletown, CT

Project No: 1009634026-02

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC33784-1 Collected: 18-SEP-14 13:40 By: DL Received: 22-SEP-14 By: SAP TW-18						
MC33784-1	SW846 6010C	24-SEP-14 19:32	EAL	23-SEP-14	KR	AS,PB,SE,V,ZN
MC33784-2 Collected: 18-SEP-14 13:40 By: DL Received: 22-SEP-14 By: SAP TW-18 DUP						
MC33784-2	SW846 6010C	24-SEP-14 19:38	EAL	23-SEP-14	KR	AS,PB,SE,V,ZN
MC33784-3 Collected: 18-SEP-14 14:45 By: DL Received: 22-SEP-14 By: SAP TW-17D						
MC33784-3	SW846 6010C	24-SEP-14 19:44	EAL	23-SEP-14	KR	AS,PB,SE,V,ZN
MC33784-4 Collected: 19-SEP-14 08:40 By: DL Received: 22-SEP-14 By: SAP AOC1-MW1R						
MC33784-4	SW846 6010C	24-SEP-14 19:50	EAL	23-SEP-14	KR	AS,PB,SE,V,ZN
MC33784-5 Collected: 18-SEP-14 15:50 By: DL Received: 22-SEP-14 By: SAP TW-21D						
MC33784-5	SW846 6010C	24-SEP-14 19:56	EAL	23-SEP-14	KR	AS,PB,SE,V,ZN
MC33784-6 Collected: 19-SEP-14 09:50 By: DL Received: 22-SEP-14 By: SAP TW-14						
MC33784-6	SW846 6010C	24-SEP-14 20:01	EAL	23-SEP-14	KR	AS,PB,SE,V,ZN
MC33784-7 Collected: 19-SEP-14 10:45 By: DL Received: 22-SEP-14 By: SAP TW-10						
MC33784-7	SW846 6010C	24-SEP-14 20:07	EAL	23-SEP-14	KR	AS,PB,SE,V,ZN
MC33784-8 Collected: 19-SEP-14 12:00 By: DL Received: 22-SEP-14 By: SAP AOC1-MW2						
MC33784-8	SW846 6010C	24-SEP-14 20:13	EAL	23-SEP-14	KR	AS,PB,SE,V,ZN

Internal Sample Tracking Chronicle

Shaw Environmental & Infrastructure

Job No: MC33784

NRG Middletown, 1866 River Road, Middletown, CT  
Project No: 1009634026-02

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
MC33784-9 Collected: 19-SEP-14 13:50 By: DL Received: 22-SEP-14 By: SAP AOC2-SB1-MW1						
MC33784-9 SW846 6010C		24-SEP-14 20:31	EAL	23-SEP-14	KR	AS,PB,SE,V,ZN

## Metals Analysis

### QC Data Summaries

---

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: MC33784  
Account: FDG - Shaw Environmental & Infrastructure  
Project: NRG Middletown, 1866 River Road, Middletown, CT

QC Batch ID: MP23637  
Matrix Type: AQUEOUS

Methods: SW846 6010C  
Units: ug/l

Prep Date: 09/23/14

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	18	13		
Antimony	6.0	1	2.4		
Arsenic	4.0	.64	2.4	0.20	<4.0
Barium	50	.43	2		
Beryllium	4.0	.31	.18		
Bismuth	50	1.1	3		
Boron	100	1.2	3.4		
Cadmium	4.0	.2	.24		
Calcium	5000	4.5	21		
Chromium	10	.37	.73		
Cobalt	50	.21	.6		
Copper	25	1.3	3.6		
Gold	50	1.7	1.4		
Iron	100	4.4	7.4		
Lead	5.0	.71	1.9	0.30	<5.0
Lithium	500	2.8	45		
Magnesium	5000	29	74		
Manganese	15	.18	.35		
Molybdenum	100	1.6	.81		
Nickel	40	.38	.57		
Palladium	50	1.6	6.5		
Platinum	50	4.2	5.1		
Potassium	5000	81	69		
Selenium	10	1.4	2.7	1.0	<10
Silicon	100	7.1	21		
Silver	5.0	.33	.96		
Sodium	5000	16	22		
Sulfur	50	.32	9.7		
Strontium	10	1.9	.18		
Thallium	5.0	1.1	1.5		
Tin	100	.36	3.3		
Titanium	50	.4	.89		
Tungsten	100	2.5	5.2		

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: MC33784  
Account: FDG - Shaw Environmental & Infrastructure  
Project: NRG Middletown, 1866 River Road, Middletown, CT

QC Batch ID: MP23637  
Matrix Type: AQUEOUS

Methods: SW846 6010C  
Units: ug/l

Prep Date: 09/23/14

Metal	RL	IDL	MDL	MB raw	final
Vanadium	10	.33	.72	-0.10	<10
Zinc	20	.32	4.2	1.4	<20
Zirconium	50	.47	1.3		

Associated samples MP23637: MC33784-1, MC33784-2, MC33784-3, MC33784-4, MC33784-5, MC33784-6, MC33784-7, MC33784-8, MC33784-9

Results < IDL are shown as zero for calculation purposes  
(\*) Outside of QC limits  
(anr) Analyte not requested



## SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC33784

Account: FDG - Shaw Environmental &amp; Infrastructure

Project: NRG Middletown, 1866 River Road, Middletown, CT

QC Batch ID: MP23637

Methods: SW846 6010C

Matrix Type: AQUEOUS

Units: ug/l

Prep Date:

09/23/14

09/23/14

Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit
Aluminum									
Antimony									
Arsenic	519	500	103.8	80-120	516	500	103.2	0.6	20
Barium	anr								
Beryllium									
Bismuth									
Boron									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper									
Gold									
Iron									
Lead	990	1000	99.0	80-120	975	1000	97.5	1.5	20
Lithium									
Magnesium									
Manganese									
Molybdenum									
Nickel									
Palladium									
Platinum									
Potassium									
Selenium	516	500	103.2	80-120	503	500	100.6	2.6	20
Silicon									
Silver	anr								
Sodium									
Sulfur									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC33784  
 Account: FDG - Shaw Environmental & Infrastructure  
 Project: NRG Middletown, 1866 River Road, Middletown, CT

QC Batch ID: MP23637  
 Matrix Type: AQUEOUS

Methods: SW846 6010C  
 Units: ug/l

Prep Date: 09/23/14 09/23/14

Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit
-------	---------------	-------------------	-------	--------------	---------------	-------------------	-------	------------	-------------

Vanadium	517	500	103.4	80-120	505	500	101.0	2.3	20
Zinc	517	500	103.4	80-120	508	500	101.6	1.8	20

Zirconium

Associated samples MP23637: MC33784-1, MC33784-2, MC33784-3, MC33784-4, MC33784-5, MC33784-6, MC33784-7, MC33784-8, MC33784-9

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (anr) Analyte not requested

# SERIAL DILUTION RESULTS SUMMARY

Login Number: MC33784  
 Account: FDG - Shaw Environmental & Infrastructure  
 Project: NRG Middletown, 1866 River Road, Middletown, CT

QC Batch ID: MP23637  
 Matrix Type: AQUEOUS

Methods: SW846 6010C  
 Units: ug/l

Prep Date: 09/23/14

Metal	MC33760-2 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	9.30	11.0	18.3 (a)	0-10
Barium	anr			
Beryllium				
Bismuth				
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper				
Gold				
Iron				
Lead	6.10	5.90	3.3	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Palladium				
Platinum				
Potassium				
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	anr			
Sodium				
Sulfur				
Strontium				
Thallium				
Tin				
Titanium				
Tungsten				

# SERIAL DILUTION RESULTS SUMMARY

Login Number: MC33784  
 Account: FDG - Shaw Environmental & Infrastructure  
 Project: NRG Middletown, 1866 River Road, Middletown, CT

QC Batch ID: MP23637  
 Matrix Type: AQUEOUS

Methods: SW846 6010C  
 Units: ug/l

Prep Date: 09/23/14

Metal	MC33760-2		%DIF	QC Limits
	Original	SDL 1:5		

Vanadium 1.30 0.00 100.0(a) 0-10

Zinc 271 275 1.6 0-10

Zirconium

Associated samples MP23637: MC33784-1, MC33784-2, MC33784-3, MC33784-4, MC33784-5, MC33784-6, MC33784-7, MC33784-8, MC33784-9

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

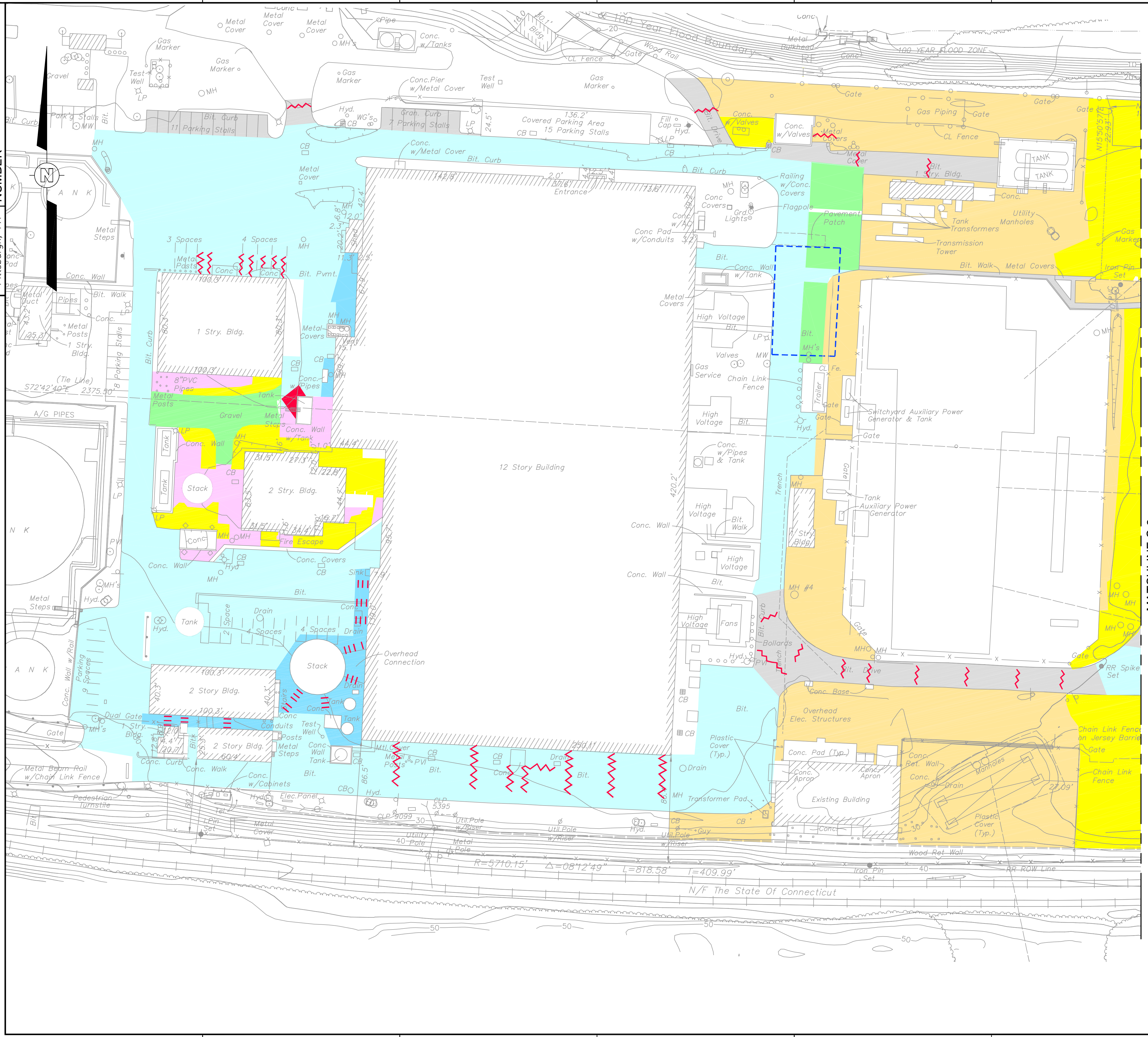
## **ATTACHMENT 2**



OFFICE  
DRAWING  
NUMBER  
1009634024-D1  
Pittsburgh, PA

VERIFY SCALE  
0 1"

File: O:\Draw Offices - CAD Files\Stoughton, MA\NRG\Middletown\as-built\work\1009634024-D1.dwg  
Plot Date/Time: Mar 31, 2015 3:13pm  
Plotted By: greg.jones




**LEGEND FOR ENGINEERED CONTROLS:**

- EXISTING CONTOUR
- 4" CRUSHED STONE
- ASPHALT WITH RUBBER MEMBRANE
- ASPHALT MILLED OR NEW PAVEMENT
- ASPHALT CRACKS SEALED
- CRACK SEAL NEEDING COMPLETION
- EXISTING STONE OF SUFFICIENT THICKNESS
- STONE AREA NEEDING COMPLETION
- ASPHALT AREA NEEDING COMPLETION
- PROCESSED STONE DRIVE
- PROCESSED STONE NEEDING COMPLETION
- EXISTING ASPHALT PAVEMENT ACCEPTABLE CONDITION
- RAIL ROAD TRACK REMOVAL

- NOTES:**
- SHADED TEXT / LABELS FOR EXISTING SURFACE MATERIALS ARE AS SHOWN ON ORIGINAL BASE MAP AND MAY HAVE BEEN SUPERCEDED BY ENGINEERED CONTROLS SHOWN IN LEGEND.
  - STATUS DURING COVER INSTALLATION IS SHOWN, NOT FINAL.

**DRAFT**

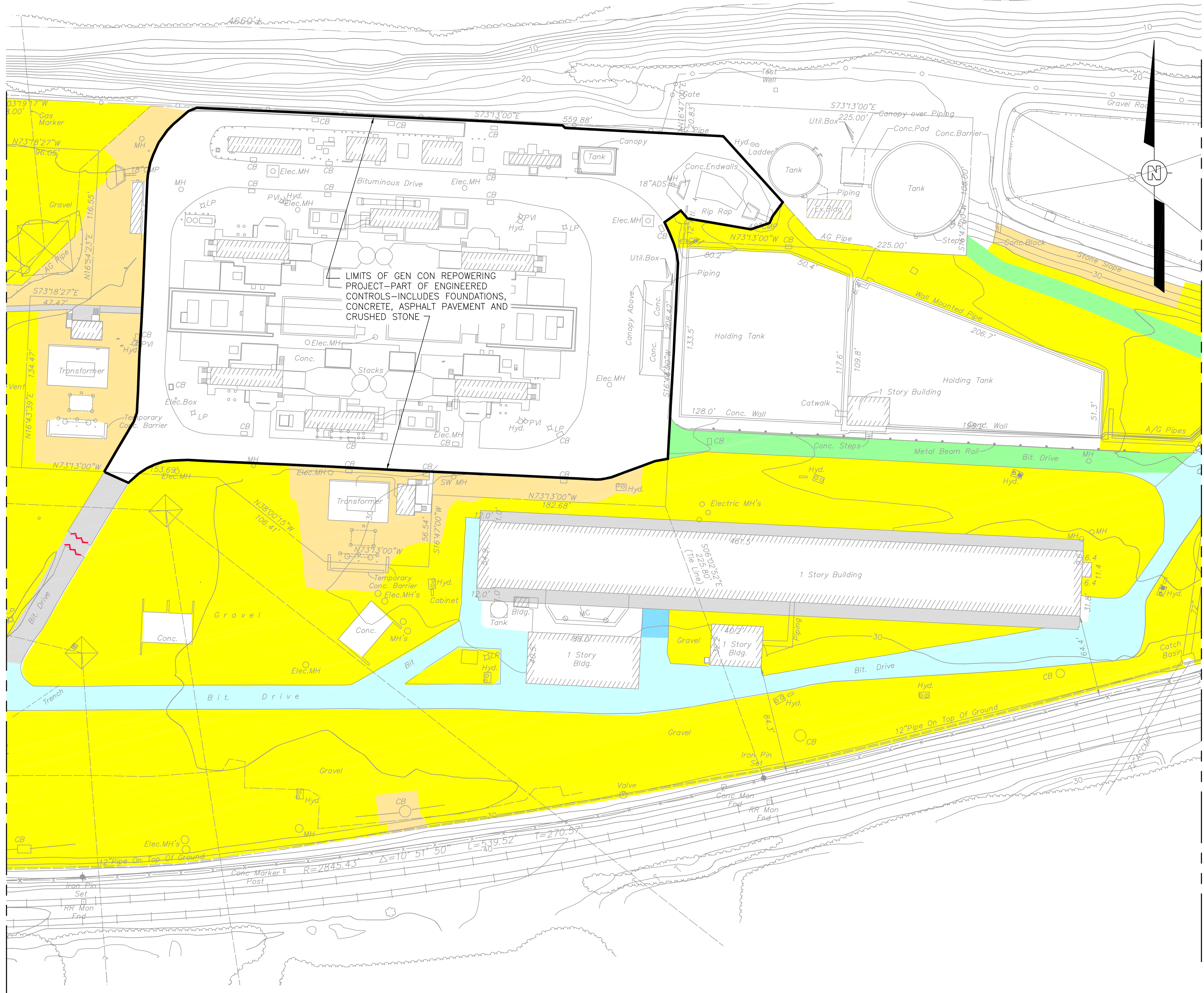
SCALE  
0 40 80 120 FEET

REV	DESCRIPTION / ISSUE	DATE	APPROVED
0	EC FALL 2013	1/29/14	PF
1	EC STATUS/SITE VISIT	5/6/14	PF
2	SURVEY INFO ADDED	3/31/15	PF
<div><div></div><div><div>CB&amp;I Environmental &amp; Infrastructure, Inc</div><div>150 Royall Street</div><div>Canton, MA 02021</div></div></div>			
DESIGNED BY: <i>P. Farrington</i>		MIDDLETOWN POWER LLC MIDDLETOWN, CONNECTICUT	
DRAWN BY: <i>G. Jones</i>			
CHECKED BY: <i>A. Walker</i>		AS-BUILT ENGINEERED CONTROLS MIDDLETOWN GENERATING STATION MIDDLETOWN, CONNECTICUT	
APPROVED BY:			
DATE: 1/2/14	SCALE: AS SHOWN	DRAWING NO. 1009634024-D1	SHEET NO. C-1



MATCHLINE C-1

MATCHLINE C-3



LEGEND FOR ENGINEERED CONTROLS:


- EXISTING CONTOUR
- 4" CRUSHED STONE
- ASPHALT WITH RUBBER MEMBRANE
- ASPHALT MILLED OR NEW PAVEMENT
- ASPHALT CRACKS SEALED
- EXISTING STONE OF SUFFICIENT THICKNESS
- STONE AREA NEEDING COMPLETION
- ASPHALT AREA NEEDING COMPLETION
- PROCESSED STONE DRIVE
- EXISTING ASPHALT PAVEMENT ACCEPTABLE CONDITION
- RAIL ROAD TRACK REMOVAL

NOTES:

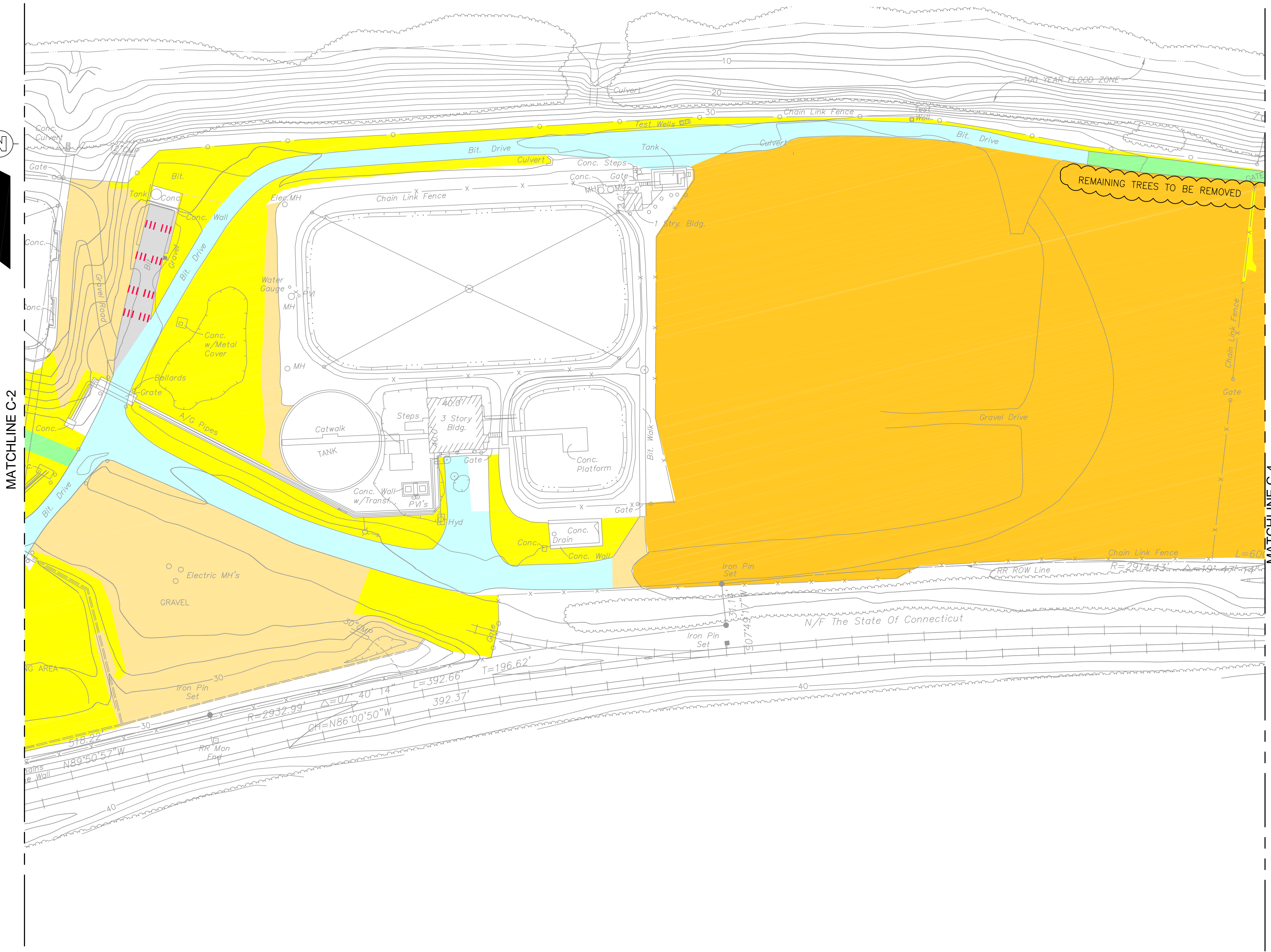
- SHADED TEXT / LABELS FOR EXISTING SURFACE MATERIALS ARE AS SHOWN ON ORIGINAL BASE MAP AND MAY HAVE BEEN SUPERCEDED BY ENGINEERED CONTROLS SHOWN IN LEGEND.
- STATUS DURING COVER INSTALLATION IS SHOWN, NOT FINAL.

**DRAFT**

SCALE  
0 40 80 120 FEET

REV	DESCRIPTION / ISSUE	DATE	APPROVED
0	EC FALL 2013	1/29/14	PF
1	EC STATUS/SITE VISIT	5/6/14	PF
2	SURVEY INFO ADDED	3/31/15	PF
		CB&I Environmental & Infrastructure, Inc 150 Royall Street Canton, MA 02021	
DESIGNED BY: <i>P. Farrington</i>		MIDDLETOWN POWER LLC MIDDLETOWN, CONNECTICUT	
DRAWN BY: <i>G. Jones</i>			
CHECKED BY: <i>A. Walker</i>		AS-BUILT ENGINEERED CONTROLS MIDDLETOWN GENERATING STATION MIDDLETOWN, CONNECTICUT	
APPROVED BY:			
DATE: 1/2/14	SCALE: AS SHOWN	DRAWING NO. 1009634024-D1	SHEET NO. <b>C-2</b>





LEGEND FOR ENGINEERED CONTROLS:

— 22 —

EXISTING CONTOUR

4" CRUSHED STONE

ASPHALT WITH RUBBER MEMBRANE

ASPHALT MILLED OR NEW PAVEMENT

ASPHALT CRACKS SEALED

|||||

CRACK SEAL NEEDING COMPLETION

EXISTING STONE OF SUFFICIENT THICKNESS

STONE AREA NEEDING COMPLETION

ASPHALT AREA NEEDING COMPLETION

PROCESSED STONE DRIVE

EXISTING ASPHALT PAVEMENT ACCEPTABLE CONDITION

--

RAIL ROAD TRACK REMOVAL

SOIL COVER REQUIRED


- NOTES:
1. SHADED TEXT / LABELS FOR EXISTING SURFACE MATERIALS ARE AS SHOWN ON ORIGINAL BASE MAP AND MAY HAVE BEEN SUPERCEDED BY ENGINEERED CONTROLS SHOWN IN LEGEND.

2. STATUS DURING COVER INSTALLATION IS SHOWN, NOT FINAL.

DRAFT

SCALE

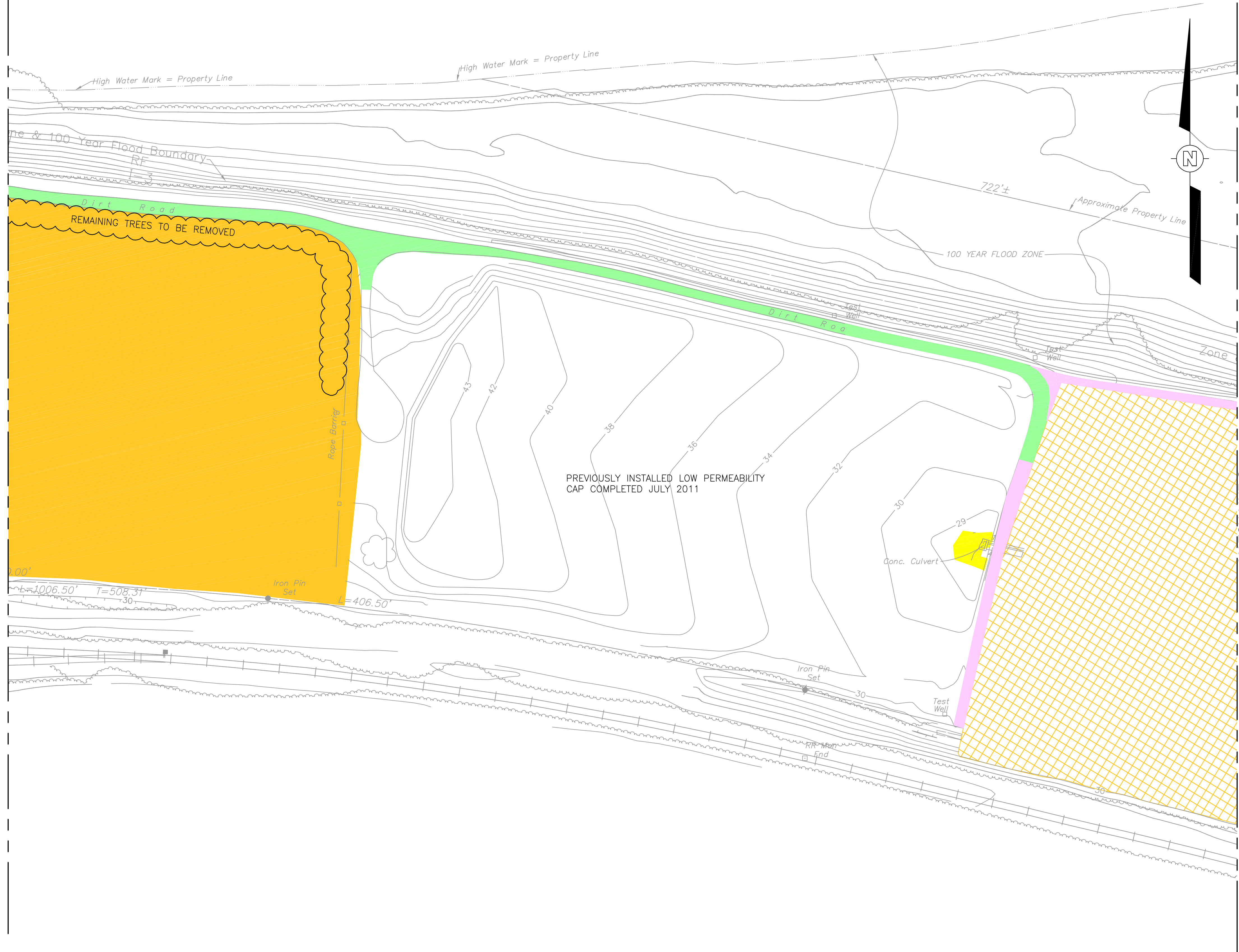
0 40 80 120 FEET

REV	DESCRIPTION / ISSUE	DATE	APPROVED
0	EC FALL 2013	1/29/14	PF
1	EC STATUS/SITE VISIT	5/6/14	PF
2	SURVEY INFO ADDED	3/31/15	PF
		CB&I Environmental & Infrastructure, Inc 150 Royall Street Canton, MA 02021	
DESIGNED BY: <i>P. Farrington</i>		MIDDLETOWN POWER LLC MIDDLETOWN, CONNECTICUT	
DRAWN BY: <i>G. Jones</i>			
CHECKED BY: <i>A. Walker</i>		AS-BUILT ENGINEERED CONTROL MIDDLETOWN GENERATING STATION MIDDLETOWN, CONNECTICUT	
APPROVED BY:			
DATE: 1/2/14	SCALE: AS SHOWN	DRAWING NO. 1009634024-D1	SHEET NO. <b>C-3</b>



MATCH LINE C-3

MATCH LINE C-5




- LEGEND FOR ENGINEERED CONTROLS:**
- EXISTING CONTOUR
  - 4" CRUSHED STONE
  - ASPHALT WITH RUBBER MEMBRANE
  - ASPHALT MILLED OR NEW PAVEMENT
  - ASPHALT CRACKS SEALED
  - EXISTING STONE OF SUFFICIENT THICKNESS
  - STONE AREA NEEDING COMPLETION
  - ASPHALT AREA NEEDING COMPLETION
  - PROCESSED STONE DRIVE
  - EXISTING ASPHALT PAVEMENT ACCEPTABLE CONDITION
  - RAIL ROAD TRACK REMOVAL
  - SOIL COVER REQUIRED
  - LOW PERMEABILITY CAP REQUIRED

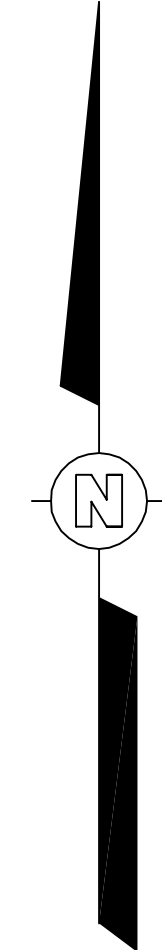
- NOTES:**
- SHADED TEXT / LABELS FOR EXISTING SURFACE MATERIALS ARE AS SHOWN ON ORIGINAL BASE MAP AND MAY HAVE BEEN SUPERCEDED BY ENGINEERED CONTROLS SHOWN IN LEGEND.
  - STATUS DURING COVER INSTALLATION IS SHOWN, NOT FINAL.



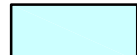







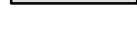

**DRAFT**

SCALE  
0 40 80 120 FEET

REV	DESCRIPTION / ISSUE	DATE	APPROVED
0	EC FALL 2013	1/29/14	PF
1	EC STATUS/SITE VISIT	5/6/14	PF
2	SURVEY INFO ADDED	3/31/15	PF
		CB&I Environmental & Infrastructure, Inc 150 Royall Street Canton, MA 02021	
DESIGNED BY: <i>P. Farrington</i>		MIDDLETOWN POWER LLC MIDDLETOWN, CONNECTICUT	
DRAWN BY: <i>G. Jones</i>			
CHECKED BY: <i>A. Walker</i>		AS-BUILT ENGINEERED CONTROL MIDDLETOWN GENERATING STATION MIDDLETOWN, CONNECTICUT	
APPROVED BY:			
DATE: 1/2/14	SCALE: AS SHOWN	DRAWING NO. 1009634024-D1	SHEET NO. <b>C-4</b>





- # LEGEND FOR ENGINEERED CONTROLS
- |   |  |
|---|--|
| — 22 —  | EXISTING CONTOUR                               |
|  | 4" CRUSHED STONE                               |
|  | ASPHALT WITH RUBBER MEMBRANE                   |
|  | ASPHALT MILLED OR NEW PAVEMENT                 |
|  | ASPHALT CRACKS SEALED                          |
|  | EXISTING STONE OF SUFFICIENT THICKNESS         |
|  | STONE AREA NEEDING COMPLETION                  |
|  | ASPHALT AREA NEEDING COMPLETION                |
|  | PROCESSED STONE DRIVE                          |
|  | EXISTING ASPHALT PAVEMENT ACCEPTABLE CONDITION |
|  | RAIL ROAD TRACK REMOVAL                        |
|  | SOIL COVER REQUIRED                            |
|  | LOW PERMEABILITY CAP REQUIRED                  |


- NOTES:**
1. SHADED TEXT / LABELS FOR EXISTING SURFACE MATERIALS ARE AS SHOWN ON ORIGINAL BASE MAP AND MAY HAVE BEEN SUPERCEDED BY ENGINEERED CONTROLS SHOWN IN LEGEND.
  2. STATUS DURING COVER INSTALLATION IS SHOWN, NOT FINAL.


**DRAFT**

SCALE

0 40 80 120 FEET

REV	DESCRIPTION / ISSUE	DATE	APPROVED
0	EC FALL 2013	1/29/14	PF
1	EC STATUS/SITE VISIT	5/6/14	PF
2	SURVEY INFO ADDED	3/31/15	PF

	CB&I Environmental & Infrastructure, Inc 150 Royall Street Canton, MA 02021
	DESIGNED BY: <i>P. Farrington</i>
	DRAWN BY: <i>G. Jones</i>
	CHECKED BY: <i>A. Walker</i>

	MIDDLETOWN POWER LLC MIDDLETOWN, CONNECTICUT	
	AS-BUILT ENGINEERED CONTROL MIDDLETOWN GENERATING STATION MIDDLETOWN, CONNECTICUT	
	APPROVED BY:	DATE: 1/2/14
	SCALE: AS SHOWN	

DRAWING NO. 1009634024-D1	SHEET NO. C-5
------------------------------	------------------



## **ATTACHMENT 3**

**Engineered Control Inspection Checklist  
Middletown Generating Station  
Middletown, CT**

Completed by: Keith Shortsleeve

Company: NRG

Date: 08-14-14

Signature: 

**Problem Code**

**ACE 1 or 2** = Aggregate Cover Erosion, Moderate or Severe

**ACSW 1 or 2** = Aggregate Cover Subsurface Washout, Moderate or Severe

**SCE 1 or 2** = Soil Cover Erosion, Moderate or Severe

**SCSW 1 or 2** = Soil Cover Subsurface Washout, Moderate or Severe

**GD 1 or 2** = Vegetation Dead, Moderate or Severe

**GE 1 or 2** = Vegetation Erosion, Moderate or Severe

**GP** = Vegetation Water Ponding Observed

**GSF** = Vegetation Slope Failure

**GSW** = Vegetation Subsurface Washout

**PDSO** = Perimeter Drainage Swale Obstructed

**DCO** = Drainage Culvert Obstructed

**AP C1** = Asphalt Pavement Cracks > 1/2 inch

**AP C2** = Asphalt "Potholes"

**SF** = Slope Failure

**O** = Other

Remedial Areas (1)	Problem Code	Repair Requirements and Notes (Provide Description)
<b>AOC 1 (Ash Settling Basins)</b>		
Low Permeability Engineered Control		Construction partially complete.
Asphalt Engineered Control		Complete
Aggregate Engineered Control		Construction in progress.
Soil Engineered Control		Construction incomplete.
<b>AOC 8 (North &amp; South Fuel Additive Tanks)</b>		
Asphalt Engineered Control		Construction complete.
<b>AOC 13 (Eastern half)</b>		
Aggregate Engineered Control		Construction partially complete.
Soil Engineered Control		Construction incomplete.
Asphalt Engineered Control		Construction incomplete

**Notes:**

- (1) Use Sheets 1, 2, 3 and 4 of the Engineered Control Drawings for the Inspection Plan.
- (2) Document condition of each area identified and repaired during previous inspection.

**Engineered Control Inspection Checklist  
Middletown Generating Station  
Middletown, CT**

Completed by: Keith Shortsleeve

Company: NRG

Date: 11-4-14

Signature: 

**Problem Code**

**ACE 1 or 2** = Aggregate Cover Erosion, Moderate or Severe

**ACSW 1 or 2** = Aggregate Cover Subsurface Washout, Moderate or Severe

**SCE 1 or 2** = Soil Cover Erosion, Moderate or Severe

**SCSW 1 or 2** = Soil Cover Subsurface Washout, Moderate or Severe

**GD 1 or 2** = Vegetation Dead, Moderate or Severe

**GE 1 or 2** = Vegetation Erosion, Moderate or Severe

**GP** = Vegetation Water Ponding Observed

**GSF** = Vegetation Slope Failure

**GSW** = Vegetation Subsurface Washout

**PDSO** = Perimeter Drainage Swale Obstructed

**DCO** = Drainage Culvert Obstructed

**AP C1** = Asphalt Pavement Cracks > 1/2 inch

**AP C2** = Asphalt "Potholes"

**SF** = Slope Failure

**O** = Other

Remedial Areas (1)	Problem Code	Repair Requirements and Notes (Provide Description)
<b>AOC 1 (Ash Settling Basins)</b>		
Low Permeability Engineered Control		Construction partially complete.
Asphalt Engineered Control		Complete
Aggregate Engineered Control		Construction in progress.
Soil Engineered Control		Construction incomplete.
<b>AOC 8 (North &amp; South Fuel Additive Tanks)</b>		
Asphalt Engineered Control		Construction complete.
<b>AOC 13 (Misc. Residual Coal Ash Area Eastern half)</b>		
Aggregate Engineered Control		Construction Complete.
Soil Engineered Control		Construction Complete.
Asphalt Engineered Control		Construction Complete.

**Notes:**

- (1) Use Sheets 1, 2, 3 and 4 of the Engineered Control Drawings for the Inspection Plan.
- (2) Document condition of each area identified and repaired during previous inspection.